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USSR Report

ECONOMIC AFFAIRS

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USSR REPORT

Economic Affairs

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

SELYUNIN HIGHLIGHTS INTRINSIC PROBLEMS OF SOVIET ECONOMY

Moscow NOVYY MIR in Russian No 8, Aug 85 pp 173-194

[Article by Vasiliy Selyunin: "The Experiment"]

[Text] The situation has changed considerably since the time when the poet injudiciously complained: "Physicists are somehow esteemed, lyric poets are somehow neglected." Lyric poets were not, let us assume, neglected formerly, and it is also wrong for them to complain today. But now practical economists have, it seems, supplanted the mysterious physicists in our consciousness. In a friendly circle, I notice, the practical economist is capable of eclipsing not some physicist but, with luck, even a hockey player of a team of all-stars. Of the press there is nothing to be said--what self-respecting newspaper is published today without a business article?

There are good reasons for this.

It's simple: we have all become less tolerant of shortages of goods. Strictly speaking, it is not even a question of shortage--the store shelves are weighed down with all kinds of things. Footwear, say, is being manufactured three pairs per capita. Sufficient per capita, but on the feet.... Why does the factory not sew that for which the customer is prepared to put down hard-earned cash? Domestic tape recorders are several times cheaper than Sony or Grundig. Fine, only why are ours of inferior quality? They have unemployment there, superfluous people in the full sense of the word, but, on the other hand, they are wringing the sweat from those who have a job. We have forgotten unemployment, but is it good that sometimes we work at half-cock? The mere formulation of these questions signifies economic thinking. It takes a certain culture, and where the economists have held aloof from a search for answers, amateur Marats, prepared at a stroke to cancel out past and present, orate.

The reader today is wary. He has many times been promised by specialists incalculable blessings which will be brought by the scientific organization of labor, computers, critical-path planning, the Symbol of Quality, indeed, any amount of miraculous innovations. And if hopes are not realized in full, each of us is beginning to realize: some interests or other and some people's motives for the innovations were not taken into consideration in the calculations. While economics is the science of interests in management.

The public's attention to the economy has been aroused by a large-scale experiment which is in its second year now in five sectors of industry. It was joined by a further 26 sectors in January. It can definitely be said that this is the most serious attempt at an improvement in the economic mechanism of the last 15 years. The attempt has been largely successful. But an evaluation of an experiment in itself presupposes some delight--it was organized to ascertain and, as far as possible, remove the negative phenomena in the economy which it had not been possible to forestall by the methods known to us.

Like any matter of significance, an experiment not only provides answers to life's questions but poses new problems also. They should not be feared. New problems appear as the old ones are solved, and not a minute before. There is nothing to be done--it is the dialectic. The best economic mechanism is not eternal, and contradictions will accumulate therein in time. This is an indicator of the dynamism of socialist management.

The experiment set two major goals: first, each enterprise was obliged to fulfill the partners' orders most punctually; second, every collective had without goading to increase production and put potential on the table and not hide it away, as is still the case. First concerning the first of them.

1

In 30 years of trips to plants and construction sites I do not recall an occasion when industrial workers were not complaining about inadequate supply. Checking out the complaints was pointless--they were undoubtedly warranted. Just a trifling little thing, but allied subcontractors have not supplied it on time. Subsequently a chain reaction of holdups. There was the case of the mighty Gorkiy Auto Plant being unable to sell a consignment of Volga's because a partner had not shipped it the mechanism for lifting the windshield. And was unable to ship it: it, in turn, was owed rubber gaskets, the very outside cost of which would be a handful of sunflower seeds on market day. Incidentally, such special cases have been written about by more than one generation of journalists, and going on about them again is the equivalent of carrying water to the sea in a bucket.

The economic experiment emphatically puts a stop to the supplier's sloppiness. The conditions are now strict: for a collective which disrupts 1 percent of supplies--3 percent from the bonus fund gone. If it is considered that basic engineering, for example, has as of now fallen approximately 6 percent short in the supply of ordered products to consumers, the significance of the punishment is obvious. On the other hand, punctuality is rewarded: for the strict execution of orders the incentive fund is immediately increased 15 percent, while the director receives a bonus of up to three salaries.

The result is gratifying. In the five sectors which began the experiment last year the supply interruptions are calculated in fractions of a percent, while the majority of enterprises have settled with their clients in full and on time. We have not had this before. Since this January 31 sectors have been operating on these conditions, and a similar result may be expected.

Thus is industry's most painful problem--supply--being solved?

This has to be verified by analysis. The chain of our arguments is supported by a quite bold postulate: if an enterprise obtained on time everything that it had ordered for the production plan, material-technical supply would be normal, and, given this guarantee, there would be no reasons for holdups in work other than one's own mismanagement. It is question of things which are too important for such an assumption to be taken on trust. Understanding people know that the hardest thing in economics is ascertaining the connection of phenomena which would appear to be obvious. It is easier with formulas, calculations and other subtleties, but where there is simplicity, expect trickery. And if there is disorder in the axioms, we will at the time practical tasks are being tackled continuously encounter obstacles, not understanding whence they have sprung up. So we should not disregard postulative activity, on which the economy with its inconceivable complexity and transparent simplicity reposes.

To start with, a quite recent affair, which occupied five ministers. Personally.

To be honest, it was with some trepidation that I obtained the papers which they had just signed. In the right-hand corner of each was the official stamp of P. Neporozhnyy, former minister of power and electrification, in the left-hand corner the signature of the leader of the sector which had delayed equipment for AES nearing completion. It cannot be said that the debts were great. It was seemingly somehow not a ministerial concern--a dozen flanges or five thermometers. But without them no million-kilowatt-capacity unit.

Who was to blame? At first sight an inappropriate question--here they are, the debtor-plants are called by name. Let us wait a little before the angry speeches. Let us ascertain first with what the suppliers were so busy that they allowed themselves to disrupt a nuclear order. Something even more urgent, perhaps? Since it is a question of supplies for construction projects, seeking the answer in the USSR Stroybank is the most convenient. This establishment finances construction. Consequently, it also knows the fate of the equipment for major facilities. They record the demand for it here and monitor to what extent this demand is justified and whether the clients are not asking for too much. In the classical definition finances are not money but economic relations. If what is soonest understood by this is the attitude toward the state kopeck, there will be no mistake. And it is very visible from the monumental bank building on Tverskiy Boulevard.

The power engineers, at least, should be ashamed to complain that they are undersupplied to some extent. In the past 8 years stocks of uninstalled equipment have more than tripled at construction sites of the Ministry of Power and Electrification and have risen in terms of cost to R1.5 billion, including above-norm stocks, that is, definitely superfluous values have multiplied from R71 to R488 million. The commissioning of capacity in the same period has declined, and whereas in 1976 some R39 of equipment lay in the warehouses per installed kilowatt, in 1983 the figure was R154. At a minimum a further kilowatt could have been introduced for this money--the stocks of the frozen goods are much more than the annual consumption of equipment.

Let us add up the losses. A ruble invested in the economy yields 15 kopecks profit a year. This same year equipment of a cost of R1.5 billion is laid up--R225 million are lost. The money is dissolved in air together with the ungenerated electric power. In practice the losses are greater inasmuch as costly units stand unopened for 5 and 10 years. According to Stroybank data, the AES equipment is assembled on average 3-4 years after it has been delivered to the site. The power construction workers hand over 69 percent of the equipment they have received assembled behind schedule. In order to find out the original planned deadlines for certain facilities I had to plow through the archives of the 5-year plan before last.

Here we need to further clarify what is meant by hand over assembled. There is a special set of instructions on this score of the USSR Ministry of Finance and Central Statistical Administration: "Equipment requiring assembly is incorporated in fulfillment of the volume of capital investments after its installation at the permanent place of operation has actually begun, that is, attachment to the foundation, floor, interstory beam or other supporting structures of a building (installation) or the enlargement assembly of equipment has begun...." With futile conscientiousness the authors try in vain to squeeze into the instructions all nuances of practice: if you screw equipment to the clouds, this is absolutely not taken into account in your plan. But if just one nut is screwed on where authorized, the entire consignment of equipment is marked down in the report on the assimilation of capital investments. I confess that it is not without embarrassment that I explain this procedure--I am, nonetheless, writing a business article and not an aid for beginner window-dressers. With regard for that which is counted as being under assembly, the value of the frozen goods has to be virtually doubled.

In the Ministry of Power and Electrification I picked up a list of equipment of which there was for the AES a supply shortfall back in 1983. Approximately half of the debts were for power units which are not scheduled for construction in the present 5-year plan, and it is not known when they will be included in the plan. Nonetheless, the orders were carefully carried over to the 1984 plan, and upon the least delay in supplies the power engineers created downright scandals (for what reason I will go on to explain). And what is interesting is this: the same plants which failed to cope with the supplies for the nuclear power units nearing completion are obliged to execute early orders. Now judge whence sprang the debts which required the personal intervention of five ministers: engineering capacity was tied down by the superfluous orders of the power engineers.

It is not just the power engineers who are such thrifty people. The piles of frozen equipment are growing rapidly at metallurgical, chemical and petrochemical facilities. USSR Gossnab specialist T. Abramova shared disturbing calculations with me: five-six times more of some types of costly electrical equipment than the norm has piled up at the construction sites. The suppliers once attempted to hold back the supplies somewhat--and protests followed immediately from the leaders of the ministries. The chief of a major Gossnab subdivision confided:

"We know, of course, which facilities will certainly not be introduced, but just try not sending equipment there. The client and the contractor shift the whole blame for the disruption of production onto us. We have an unambiguous instruction from the Gossnab leadership: don't get mixed up in disputes, ship what is authorized, and the rest is not our concern."

The economic experiment has made supply discipline the cornerstone. But just consider the adduced facts: the trouble is not so much the supply shortfalls as supply overages (please excuse the awkward word), and the debts to allied subcontractors are merely a consequence of the enterprises being loaded with superfluous orders.

We can hardly rid ourselves of the consequence without having removed the cause. The punctual observance of contracts, although good, leads to even more values being frozen, if departmental appetities and not the true requirements of the economy are satisfied. This assumption has today even been corroborated by one unpleasant fact: stocks of uninstalled imported equipment are growing far more rapidly than domestic equipment. The solution is simple: the foreign firms are executing their commitments on time, something at which our suppliers do not shine as yet.

It does not follow from the arguments, of course, that it is praiseworthy to disrupt supplies and let down a contract partner. The experimental development of dependable industrial relations is very useful and is an essential component in the system of measures aimed at an improvement in the economic mechanism. I merely wish to say that the effect of the new conditions will be reflected after the clients confine their demand for the industrial product, particularly equipment, within reasonable limits. Everything that is not being used is superfluous, although it was manufactured on time. A ruble invested in equipment should revolve and grow into kopecks of profit. But this task is more difficult than imposing sanctions against a disruption of supplies. A reorganization of the settled procedure of financing is needed here. Currently the enterprises and sectors surrender the bulk of profits, which are needed for expanded reproduction, to the treasury and receive from the treasury money for construction, regardless of their contribution to the overall pot. It is naive to expect that under these conditions some department will limit its demands on the budget. It is not money which is being divided up but the country's resources, which are granted for the millions of rubles which have been doggedly obtained--materials, equipment and the capacity of the construction organizations.

"I am responsible for my sector and not for the whole national economy and I will always elbow aside any others when the treasury pie is being carved up," a highly responsible ministry leader confessed in conversation with me. One sensed in his words the pain of a state-minded individual--the indifferent act thus, but do not speak thus.

Departmental discord does not end after the pie has been divided--it essentially goes on the year round. We have already said how much unnecessary property the power engineers came by last year. Do you think they rested content with what had been achieved in anticipation of the next parceling out of resources? Not a bit of it! Last summer V. Panfilov, chief of the Ministry of Power and

Electrification Planning-Economic Administration, sent the Stroybank something in the way of an ultimatum: "To fulfill the 1984 it is essential to raise the ceiling of the payment for equipment by R300 million. Until this question is decided we request that the government continue financing this equipment...." You have understood something, reader? No? I will explain. Over and above the astronomical sums which the state allocated the sector and which are being used thoroughly badly the ministry high-handedly ordered a further R300 million of equipment. The calculation was simple: the main thing is extorting equipment from the supplier. At the year's end it is pointless investigating what money was allocated the power engineers, what the steelworkers and what the brewers. The treasury puts out money for finished products--what should it do with it? And the equipment which has been paid for becomes an impressive, literally multiton argument in the routine departmental game: give us more money for construction--equipment has been put by here for new construction projects, we should not be salting it away for future use. This is why the departments make a universal noise when there are delays in manifestly superfluous supplies.

Precisely the metallurgists order by this maneuver R200-300 million of equipment annually over and above the allotted ceilings. In the last 5-year plan, I recall, I picked up in the Stroybank information on uninstalled equipment at facilities of the USSR Ministry of Ferrous Metallurgy. At that time, I am ashamed to say, I thought: if it goes on like this, the cost of the frozen property will reach R1 billion. This frontier is now far behind us--R1.7 billion, 56 percent of this wealth, furthermore, has lain immobile from 2 to 10 years.

This equipment is manufactured by basic engineering plants. In conversation with me the leaders of the Ministry of Heavy and Transport Machine Building were indignant: before it gets to the point of assembly the equipment becomes obsolete and frequently simply goes out of order. It is written off, and what is needed is manufactured a second time around. An anecdotal incident was related by V. Belyaninov, director of the All-Union Scientific Research and Planning-Design Institute of Metallurgical Engineering. Nonferrous metallurgy was in urgent need of a special mill. Through high authorities the Ministry of Nonferrous Metallurgy instructed the engineers to design and manufacture it in great haste. An old worker of the institute happily recalled: it seems this was designed about 12 years ago. They investigated--yes, a mill had been manufactured at that time and was still lying there. It was evidently easier for the metallurgists to repeat the order than to seek out the finished product in the mounds of still unopened equipment.

What kind of economy can be sustained like this?

All will be different when the enterprises and sectors start to live and develop on their own resources. If you wish to build, first earn the money. Or borrow from the state at interest. You have bought in excess, pay for it with the ruble. After all, until it produces products, equipment makes no profit. And it is your profit, not the treasury's. The idea of self-financing was proclaimed in general form by the conditions of the economic experiment. But in order to put it into practice it is necessary to determine precisely which

part of the profit belongs unconditionally to the enterprise. This has not been done, and self-financing as yet remains a pious wish.

The proposed innovation solves, however, only half the problem: the demand for products will be confined within reasonable limits. But where is the measure of what is reasonable? How to calculate true requirements? These old questions have again been posed anew by the economic experiment, which testifies to its vitality.

Contrary to hopes, stocks of commodity-material values continue to grow at the enterprises taking part in the experiment also. Take the "Elektrostaltyazhmash" Association. In the warehouses there are more than 600,000 superfluous bearings alone, while altogether material for almost a whole year of work has been laid in. There are also things that will hardly ever be needed. For what was this property bought?

"What should have been bought?" A. Sukhanov, chief economist of the association, answered question for question. "I receive the plan for the next year in December, but handed in the claims for material back in the spring. It would have been a miracle if my orders had coincided with future requirements. Surely it is clear superfluous stocks will grow further?"

Clear indeed. In April-May the planners demand of the enterprises the order for all types of material for the coming year. The plant economist reasonably objects: for what, strictly speaking, to make the applications? You give me first the production plan, indicate what products I have to manufacture, then I will say precisely specifically what material I need. The planner, in turn, even more reasonably explains: where can I get you an actual plan until there are applications? After all, it is only they that show what product is needed the following year and in what quantity. The colliocutors could wrangle as long as they liked, but they would engender not the truth but a protocol of disagreements. The dispute is pointless, like the problem of what came first: the chicken or the egg (an interesting detail. Scientists from the USSR Academy of Sciences Institute of Economics called attention to this clash in a report on the course of the experiment and proposed: it is necessary to promulgate a law on trustworthy planning and, moreover, bake a managerial body responsible for the balanced nature of production. Unpretentious and tasteful, only spare us, you know--we have plenty of this property as it is).

In practice the plan is made up, of course, in accordance with applications, and not the other way about. Were it otherwise, production would be divorced from demand altogether. It would be like a shooting competition at which victory is adjudicated on the basis not of the hits on target but the number of shots. However, the minuses of the accepted procedure are obvious: the warehouses are heaving with superfluous property, but there is sometimes nothing to manufacture products with--not knowing in good time the production program, the plant supplier has not ordered some necessary commodities at all. The industrial worker is bothered only by a shortage, superfluous values are of little concern to him.

But they are not a matter of indifference to society. Let us try and estimate the scale of the losses. We have already discussed stocks of uninstalled equipment. The situation there can generally be understood by anyone: we have a mill or nuclear reactor--produced at one time and lying around uselessly for so many years. It is more difficult to trace the fate of 20 million and more types of series product dispersed at plant and other larders. Nonetheless, it was possible to make some calculations from statistical references.

In the past decade the additional amounts of national income hardly covered the increase in stocks of commodity-material values in the national economy. In individual years the stocks increased even faster than the national income. Thus in 1981 income grew by R24.5 billion, while stocks grew by R29.3 billion. In other words, for a long period now the accumulated part of national income has not been serving society--an equal quantity of products has become settled in stocks. This pertains to the entire national economy. Industry also is working to an increasingly great extent for the warehouses and not for consumption. As of 1975 stocks in industry began to increase relatively more rapidly than the volume of production. The discrepancy in the rate is intensifying, and now stocks are growing three times as fast as commodity output. Whereas in the Eighth Five-Year Plan (1966-1970, when an economic reform was under way) a little more than 13 kopecks of industrial product had become settled in stocks per incremental ruble, in 1981 the figure was more than 77 kopecks. Given such a distribution, no benefit from an increase in production can be discerned--industry is augmenting the manufacture not so much of commodities as future nondisposable items, as unnecessary values are elegantly called.

Here the economic nature of the shortage can be seen distinctly: this product or the other is in short supply by no means because it could not be manufactured; resources were expended on the manufacture of a superfluous product, and, naturally, there were insufficient resources for the production of the necessary product. It is difficult, however, to trace the connection of a shortage with supply disruptions. Supply delays should not generally be dramatized--for the most part this is merely a convenient method of justifying one's own mismanagement ("That's who has spoilt my whole game"--and the classical thumb gesture somewhere behind the back). You recall the case of the debts pertaining to equipment for the AES? The power engineers called the first leaders of four sectors to account and demanded what was theirs down to the last screw. I inquire of the experts (and the affair was in October): very well, you will be given everything in full, and you will really introduce the facilities? No, they explain, of the four units due for completion, we will hand over one, with luck, two, "but bear in mind, we did not tell you this." Alright, this is the custom, keep your secret until 32 December. We know without you now from the USSR Central Statistical Administration's annual report: two units were introduced.

Until a reliable measure of requirements is found, observance of contracts will mean precise fulfillment of imprecise orders. It is here that considerable danger threatens the economic experiment. Under its conditions there is one nice point: enterprises of the first five experimenting sectors were provided with material-technical resources in priority fashion, even to the detriment of

all the others. Skeptics expressed doubt: we do not need an experiment for this; how subsequently to determine on account of what success has been achieved--the new conditions of management or thanks to the priority provision with resources? Supporters of the new model objected: we are guaranteeing the experimenters normal material-technical supply, and it only can be ensured as yet under hothouse conditions; when supplies are executed unswervingly, supply will be normal for all.

It has to be admitted, there is logic in this. But, as we have ascertained, shortage is not engendered by supply disruptions but by more profound factors. Consequently, it will continue for these fundamental factors are of absolutely no concern to the experiment. Providing resources priority fashion for five departments is one thing, for the 31 sectors operating under the new conditions in the present year is quite another. They will willy-nilly have to be transferred to the general expense. Then these sectors will hardly achieve the successes achieved by the first experimenters, which were provided with resources to their hearts content. Whether I am right or not, the year's results will show.

How, then, to rectify matters?

2

Since the chicken and egg problem is in principle insoluble, it simply has to be removed. In other words, we have to find an economic model in which this problem does not exist. The entire argument about what should precede what--the applications the production plan or the other way about--will retain its urgency as long as the plan in physical indicators is confirmed once a year by a certain time--1 January. But it should be different. If a requirement arises in a plant, it should seek a supplier and come to an arrangement concerning specified times and penalties. An intermediary--a supply organization, say, which for a fee would help one to sell and the other to buy a product--could also be a contractual partner. The sum total of contracts would become the actual production program, and no other range of products plan would be necessary.

In design the experiment contemplates independent planning of the assortment per the customers' orders. However, as before, almost the entire product is divided among consumers by the planning authorities, a supplier is appointed for the client and only after this are the partners permitted to conclude contracts strictly within the limits of the allocated ceilings. This procedure is similar to the voucher system memorable from the war years: a person could purchase a commodity in the quantity signified on the voucher and only in the store in which he was registered.

The client has no rights at all. And if, say, this August he has a need of something, only in April 1986 he may submit an application requesting that this something be shipped to him in 1987. And, furthermore, there is no guarantee that the application will be considered at the time of the next parceling out of resources. In dispatching it the client is, as it were, sending a signal to another world--who knows whether it will return, reflected and weakened,

a year later. This system kills the bold economic design and clips the wings of the enterprising. I was recently present at a meeting with the general directors of our best science-production associations. It was a question of how to accelerate the assimilation of the production of new equipment. Ideally there would be no more than 1 year from the first line drawn by the design engineer on the drawing board through the manufacture of a test model. In very many cases the pioneers of technical progress are capable of adapting to such a time frame. However, the generals have asserted to a man: there is usually nothing with which to make an innovation--after all, the application has to be submitted 2 years prior to the materials being obtained. Upon handover of the test model for series production a further 2 years will be lost for the same reason. In our dynamic age!

Making up the plan in accordance with contracts is profitable both to the client and the manufacturer of the product: the first obtains what he needs without delays, the second has an opportunity to compile an authentic actual production program. The national economy as a whole acquires the guarantee that a truly needed product has been manufactured and consumed.

What I propose is called in economic jargon a transition from distribution to the wholesale trade in producer goods. The knowledgeable reader will probably recall that this question has long been discussed. There have even been directive instructions in this connection--in the decisions of the 23d party congress, for example. But on each occasion the upper hand has been gained by the apprehension that suddenly smart clients would hustle for orders, while other consumers, more important, perhaps, would linger and be left with nothing inasmuch as the possibilities of the production of any product are not unlimited.

A serious argument. But a solution was found long since. Kindly mention must be made here of an outstanding man. It gives me pleasure to write his name--Moisey Yefimovich Kobrin. I do not venture to say that he was my friend. Teacher, yes. Now, as I commit remembrance of him to paper, I ask myself: have I met anyone else in life who has had such a strong influence on me? Perhaps, not. Incidentally, many people may say this about themselves--Kobrin left behind a school of economists. In economics he knew everything and something more besides. Moisey Yefimovich lived an incredible life and had been both up and down. We met when he was in advanced old age. This was in 1964 in the editorial office of EKONOMICHESKAYA GAZETA. The prereform economic discussion was under way at that time. Articles for discussion took up more than half of the thickish weekly. There was enough critical fuse--everyone understood the shortcomings of the economic mechanism of that time. Things were more difficult when it came to a positive program and an answer to the age-old question "what is to be done?" One article hit out at another, and it was difficult to understand what, frankly, the newspaper was fighting for. It was then that Kobrin gave us his credo--a manuscript of more than 100 pages. This was The Work. Even today when we, his pupils, are conclusively entangled in argument, the most sensible person requests: "Wait a minute, how does Kobrin decide this?" And an answer is usually forthcoming.

We discussed the fundamental idea of wholesale trade in producer goods with particular passion at that time. Indeed, would it be easy for a school, hospital or other client, for whom limited resources are allocated from the budget, to take on a financially autonomous enterprise? The plant would add to the price and snatch up the commodity. What then, Moisey Yefimovich? Everything, it turns out, is quite simple: let us initially earmark a certain proportion of the resources for provision to preferred clients, the remainder for unrestricted sale. In other words, some contracts would have to be binding. The partners here could bargain and negotiate the terms--the budget-supported client could still seek a more suitable supplier. And if such were not found, the contract would be in the form of an order.

Possessing colossal intuition, Kobrin hereupon cited the approximate proportion of resources withheld from unrestricted sale--one-fourth.

Our planning practitioners argue differently. They are prepared, however, to take risks, but within certain limits: for a start, they say, the product of which there is currently a surplus could be released for unrestricted sale; as a sufficiency of other products begins to emerge, it will be possible to exclude them from the distribution sphere also. The idea is, I believe, unrealistic since there never will be a sufficiency. The shortage will continue in perpetuity. It is engendered, as we have said, by the squandering of resources on the manufacture of a superfluous product.

Having pondered it somewhat, we are persuaded that if the selection of products is not planned and confirmed from above, many of the cost and labor indicators which are now mandatory immediately become meaningless. Proceeds, profit, labor productivity and consumption of materials may easily be deduced from the sum total of accepted orders. Consequently, enterprise independence is possible and desirable here also. There remains one obligatory quota--contributions to the budget. For the rest the collective is unrestricted. Given such and only given such conditions, the manufacture of products will correspond to requirements and compliance with contracts will be a guarantee of the normal material-technical provision of production.

Then the need for the strict monitoring of supplies from above will disappear. Currently it is still not leading to the result we hope for. Yes, discipline has improved, and disruptions are numbered only in fractions of a percent. But what has started, so to speak, the executed percentage of supplies? Has the client really received the product he needed? If the "Atommash" Plant delays the shipment of a nuclear reactor by a month, the collective is punished. But then the unit stands for years before being unpacked. Crane equipment is considered to be in short supply, and planners and suppliers parcel it out among consumers piece by piece. Were a manufacturer to try and ship behind schedule just one traveling crane, penalties would be inevitable. But by the end of the year it is ascertained that 37 percent of this equipment is simply superfluous, the property was not needed. But, on the other hand, it was shipped to the clients precisely on time.

On the scale of our economy over 1 billion business connections are established annually. Monitoring them from the center in accordance with a uniform stereotype is just as inconceivable as planning from above a boundless selection

of products. Delivery deadlines, changes in the relations, mutual penalties--the contract partners will successfully reach an understanding on all this.

The second general idea of the experiment is prompting the enterprises to willingly adopt taut plans. Let us now examine this intention and its execution.

3

I recall a conversation with A. Goreglyad, first deputy chairman of the USSR Gosplan. In such office a person has a right to take any article in the press seriously criticizing affairs in industry as referring to himself. A difficult obligation, you will agree, but I did not once discern in him irritation with journalists. It was his custom to summon (invite, if you wish) the author and ask about what was not in the article for some reason or other. Aleksey Adamovich knew how to listen to others. As far as I understood it, he needed, as it is now fashionable to say, feedback. He had climbed all the steps of the managerial ladder and at the heights of authority continued to adhere to the concept that if decisions of a state scale were executed not entirely as contemplated, the reason was not necessarily the negligence of the masses. Discussions with our brother were for him evidently a help in testing these decisions for strength.

On that occasion I inquired: how is it that ministry specialists prepare draft annual plans, but the Gosplan, as a rule, does not agree with the calculations and purely volitionally tightens the quotas?

"But the plans are fulfilled. So who has weighed the possibilities more accurately--we or the sector leaders?" Aleksey Adamovich objected and ponderously joked: "Have you not by any chance noticed in my waiting room the taut plan lines?"

It was an old discussion (Goreglyad is no longer living). But the situation has not changed much. Gosplan executive O. Yun' bowled us economists over quite recently: "We are all for multiplying the country's wealth?" And he explained that the question was not rhetorical. Yes, in word each of us was, of course, "for". But the making up of the plan begins--whether for a year or a 5-year period--and it is the same story every time: the enterprise directors prove convincingly to their superiors the impracticability of the quotas, and the ministers, in turn, expound this idea with reference to the entire sector.

"When it comes to the point, only the Gosplan in the sphere of economic management advocates a high rate of development and taut quotas," the speaker rounded off his thought.

It is difficult to argue with him. There have been many attempts to spark interest in taut quotas, but for the first time in recent decades, perhaps, the present economic experiment puts this matter on a solid foundation. The simplest possible version, comprehensible equally to both director and janitor, has been adopted: henceforward the collective will be encouraged for increases, for additions to production. The most important indicator for any enterprise

is, of coures, the wage fund. In accordance with the conditions of the experiment, it is maintained exactly as it was in the preceding year plus an addition per percentage increase in the production volume. It is suggested to people, as it were: you will not receive less than last year, but if you want more, produce more or reduce numbers. Things stand roughly the same with the bonus part of earnings.

The plan has succeeded.

"For the first time that I can remember the ministries have not been in conflict with us in connection with the fact that the quotas are unrealistic," D. Ukrainskiy, chief of the Gosplan Planning Improvement Department, told us. "More, the plan proposed by the sectors was 2 percent higher than our original outlines."

I had an interesting conversation with V. Astaf'yev, chief of the Ministry of Electrical Equipment Industry Planning-Economic Administration. Vladimir Yegorovich was somewhat perplexed: it was the end of the quarter, and no one was coming to him requesting a reduction in the plan. An unheard-of thing. A director can now himself knock down his quota, but again no volunteers--after all, there would then automatically be a reduction in the wage fund. In a word, the experimenting sectors have both adopted a tauter plan and are fulfilling it better than industry as a whole.

So, then, total success? Perhaps. But with one reservation, however. The pace of development has been accelerated, no doubt. However, but does pace solve everything? And at the expense of what and with increases in which products has it been secured? We have already seen for ourselves that there is little benefit in augmenting production if the products become settled in warehouses instead of satisfying society's demands. But this is just one flaw which the experiment does not remove. There are also somewhat more important things. We will disclose them, examining a clash typical in the highest degree.

The designer ran his hand over the engine body, as if stroking some living creature (with its ribbed stator the machine was really reminiscent of a small hedgehog). Catching my expression, Yevgeniy Ivanovich drew back his hand, was amusingly embarrassed and then in an exaggeratedly professional tone began to describe the innovation.

The 1.5 kilowatter is the pioneer of a new generation of electric engines. The motors are intended for all the CEMA countries. It is anticipated that the machine will be competitive on the world market up to the year 2000. In the new design the noise level has been reduced sharply, which is particularly appreciated these days, the motor is smooth in operation, does not require lubricating, is much ligher than similar domestic and foreign models and is cheap to produce.

So, when...? My companion, Ye. Malykhin, chief of a Kharkov design office, rose to the occasion here:

"We are approximately a year ahead of the prescribed deadline. There are as yet no particular complaints about our allied subcontractors, although seven sectors are participating in the program. In 1984, the KhELZ, that is, our Kharkov Electrical Engineering Plant, will make 120,000 new engines. By the end of the 12th Five-Year Plan production throughout the sector will have risen to 9 million a year."

So for a further 5-6 years the electrical engineering sector will turn out for consumers the motor of the previous generation. Here it is, on the table before us--there is a reluctance to even look at it now. Time is money not in some metaphorical sense there. The argument about the effect the consumers will derive from the innovation is not yet over, but, in any event, it is a question of tens of millions of rubles' benefit a year. The saving on materials has not been considered here, and it is considerable. Some 2,300 tons less copper wire for the annual program will be used, and then there is aluminum and rolled products, which also do not grow on trees.

Until recently the specialists, working two shifts, hardly left the shops, setting up the manufacture of the more sophisticated engines. The most difficult period of assimilation is now past, and all the conditions exist for rapidly, within a year at the most, displacing the obsolete model.

Obstacles have arisen, however, of a purely economic nature. Imagine line production. Here everything has been debugged, the work is mechanized and the workers know their operations to perfection. And suddenly the same shops begin the assimilation of a new product. Clearly, the manufacture of products will decline and labor expenditure per product will unfailingly increase. When, at the end of 1983, the KhELZ had manufactured the first consignment of the engines, wage consumption per motor had increased by a factor of 1.7. We calculated together with plant economists I. Androsov and M. Podol'naya: at that time the collective was losing per manufactured engine R23 of commodity output and R8 of profit.

All this is entirely normal, it cannot be otherwise. And had this story happened a year or two ago, the losses would have been less distressing for the collective: the plant would most likely have had the plan for the volume of production reduced for the period of the reorganization, and other quotas would have been adjusted. Today the situation is different: in accordance with the conditions of the experiment, in the electrical engineering sector the prosperity of the plant collectives depends on increases in production.

It is increases which are stimulated in every possible way, but it is precisely these which are lacking in the period of assimilation of a new product. Throughout the present 5-year plan the KhELZ had increased the production volume approximately 10 percent annually. Now the rate has been halved. Had the collective not become involved in assimilating the manufacture of the new motors, it would have obtained without much trouble double the wage fund increase.

Encouragement for increases prompts an enterprise to be particularly guarded when switching capacity over to new products. This is why the plant has stretched out the assimilation of the new motor series until 1987. The sector

as a whole will have removed the obsolete engine from the production lines only in 1990. Yet the situation in electrical engineering industry is very favorable for a rapid change of products. Yes, the actual number of motors manufactured will decline temporarily, but, after all, their production was in surplus. A relatively small amount of money is needed to reorganize production--new buildings do not have to be built, it is sufficient to replace some of the equipment. There is just one reason for the delay: it is desirable to keep in the program as long as possible the engine which is obsolete, but extraordinarily profitable for the manufacturer.

The paradoxes do not end here. Let us investigate thanks to what the KhELZ is securing an increase, albeit half as much as before, appreciable, nonetheless--5 percent annually. The production volume is calculated in rubles of net product. Each such ruble consists of two far from equivalent parts--wages and profits. It has been possible to determine from plant reports that in the manufacture of some products it is sufficient to spend a 10-kopeck piece on wages to obtain a ruble of product (consequently, 90 kopecks are added on in the form of profit). On the other hand, the program also contains products which are not profitable at all--in their cost the whole ruble goes on wages. And what is most displeasing, a regularity can be discerned: the longer a product is manufactured, the lower the expenditure of wages per ruble of its cost. Compensating for the loss of rate, which is inevitable when an innovation is being assimilated, is possible in only one way: simultaneously increasing the production of obsolete, but less labor-intensive products. It amusingly transpires that if you wish to assimilate something new, simultaneously increase the manufacture of old things. It helps, ensuring tidy increases.

Yet multiplying the manufacture of engines is altogether unnecessary. I have already had occasion to note that huge stocks of superfluous motors have accumulated. But the heart of the matter is not only the direct freezing of values. In creating the new-generation equipment the design engineers studied, of course, world trends in this sector. It was discovered that in West Europe and the United States consumers value particularly the economical nature of the engine in the sense of electric power consumption. Production responded to such a demand immediately--motors appeared on the market which were heavy and somewhat more costly, but with increased efficiency. The client recoups the additional expenditure in a year in the saving of electricity. So we also should take this route, perhaps? We considered, no, not profitable. The point being that there the motor operates on average 3,000 hours a year, here 1,250 hours. Given this apportionment, we would not gain much in the saving of electricity--it is more prudent to make a lighter and cheaper engine.

The correct decision, but I am confused as to why our motors are in operation for so little time. Is it not a case here of a concealed surplus of them, which means even greater extravagance than the manifest freezing of equipment in stocks? And if we consider that an electric engine does not operate just for itself--it does, after all, turn something. Consequently, that which is turned also operates no more than 1,250 hours a year or considerably less than one shift per day. Obviously, a hidden surplus of the entire equipment completed by the motors is observed.

Let us examine the situation in machine-tool manufacturing, which is the biggest client for electric engines.

The manufacture of machine tools, that is, machinery for the production of machines, began in the first 5-year plans practically from scratch. It was the bright dream of the period of accelerated industrialization to catch up and overtake the developed countries in this key sector. One of our first machine tools was thus called the "DIP" (a contraction of "dognat' i peregnat'" [catch up and overtake]). Today our pool of metal-working equipment is greater than that of the world's three most developed countries--the United States, Japan and the FRG--together. There is an expressive formula: better means more. There is no reverse to this rule: more far from always means better. Quantitative, extensive growth has led to quite a grim situation: there is simply no one to service the machine tools. Stop at the entrance to any plant, and you will unfailingly see the notice: hiring, hiring, hiring.... How could there not be a shortage of machine operators when in the period 1965-1980 alone the machine pool increased by a factor of 2.5, while the influx of operators declined heavily! Whereas in the last 5-year plan 11 million new workers joined the national economy, in the present 5-year plan the increase will be 3 million, and less in 1986-1990.

At the specialized engineering plants metal-working equipment operates on average less than 10 hours a day. In the machine shops of nonengineering enterprises, where approximately 44 percent of the machine pool is concentrated (scattered would be a better word), even worse use is made of the equipment. When a worker is without work, everyone understands: disorder. When metal, power, fuel and other materials are used extravagantly, the losses are again obvious. But if equipment is inactive, it's seemingly as it should be--the money for it was paid long ago, it has served its turn, there is nothing more to ask. There is!

In a year the national economy receives just under R200 billion worth of engineering products. This given that the equipment operates approximately 10 hours per day. But imagine that it operates 15 hours. Not an inordinate demand, you will agree--less than two full shifts. Then the product increase would constitute almost R100 billion a year. According to a conservative estimate, the country would obtain about R15 billion more in profit alone.

Continuing to increase the manufacture of machine tools means multiplying losses and a shortfall in finished products and profit. This is all the more so in that we cannot count on an influx of new workers (including machine operators). Nor are they needed!

The extensive method of the development of engineering in general and machine-tool manufacturing in particular has exhausted its potential, and each subsequent step on this path leads to a waste of labor. Abrupt changes are needed here: to produce less equipment, but such as saves labor and makes it possible to get by with the minimum maintenance personnel. It already exists, and not only on the drawing board--our land is not depleted of talent. I will tell you about one splendid collective--the Ivanovo Machine-Tool Manufacturing Association.

The head plant here was built in the 1960's as a backup for the celebrated Leningrad Association imeni Sverdlov. The enterprise had only just begun manufacturing thousands of boring machines a year when it was discovered that this product was not needed. I was working at EKONOMICHESKAYA GAZETA at that time and I well remember how we printed the notices: "The all-purpose 2620 boring machines are for sale without stocks and warrants. The Leningrad machines are of somewhat better quality, and it was difficult selling those, but the Ivanovo.... Suppliers would have us believe that it is easier to market a 2-pood weight to a lonesome traveler."

It was then that the new director, Vladimir Pavlovich Kabaidze, arrived at the plant. Initially this person seemed a dreamer--he came out with the idea of making the provincial backup plant the legislator of technical progress in engineering. Much later he explained his audacity thus: if some minimal prosperity is acquired and the business of the plan and marketing is settled, it is subsequently more difficult to begin a fundamental reorganization--let well alone. In short, the collective resolved to assimilate the production of processing centers with numerical program control. Let not the reader be intimidated by the terms, all will now become clear. The processing center is an entire bank of machine tools combined in a single machine. Blanks are loaded onto a collecting hopper. Dexterous mechanisms place them on the table, procure the necessary instrument, grind, plane and drill all that is necessary and dispatch the finished parts to the storehouse. If the machine tool is loaded with blanks at the end of the second shift, it will operate independently through the night. The Ivanovo people have now learned to connect the processing centers with transfer machinery, and what is particularly important, furthermore, such machinery may rapidly be readjusted for manufacture of the necessary product--it is sufficient to change the program. Things are moving toward people-free technology.

The machine tools are being purchased readily in Japan, the United States, the FRG and Sweden, and the order book is overflowing. It might have been expected that the enthusiasts would be made much of and fittingly rewarded morally and materially. Let us, however, listen to the director: "We have no economic benefits. It is not fortuitous that not one plant has followed our example, although our experience of the creation of new equipment has been approved. Why new equipment, why exports when, given fulfillment of conventional plan indicators, an enterprise may pay its engineering-technical personnel a 30-40 percent progressive piece rate? But given fulfillment of the new equipment quotas, if the production plan is not fulfilled, there will be no stimulation funds.... It is obvious what is more profitable to an enterprise. And every director prefers a bird in the hand.... We had planned for us from year to year manufacture of the all-purpose boring and obsolete radial-drilling machines. When we said that the 'radial' needed to be withdrawn from production and the manufacture of the all-purpose machines reduced and that we could then increase production of the processing centers, we were countered in the Gosplan: 'If you wish to manufacture more processing centers, go ahead, but there are also applications for the remaining products.' So what is the Gosplan's role: planning the future or allocating applications? The domestic pool of machine tools has grown incredibly, the machine operator shortage is acute, equipment's shift-work coefficient is falling, and an increase in the manufacture of all-purpose machine tools has been planned for us."*

* EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA No 1, 1982, pp 104-105.

This was published in the most widely-read economic journal in 1982, that is, before the start of the experiment in five industrial sectors. It is easy to understand that the race for production increases is now once again sparking interest in the sector in the manufacture of obsolete machine tools. The chain of consequences may be continued. Given the excessive manufacture of traditional equipment, the metallurgists are simply obliged from year to year to increase the production of their products. That is, an extensive increase in production is under way in this sector also....

The party and the state are persistently orienting the economy not toward only quantitative growth but toward production efficiency. It, in turn, means that we need to spend less live labor, less energy, raw material and intermediate products and less fixed production capital per unit end product. The economic experiment, on the other hand, is encouraging in every way precisely quantitative increases, that is, essentially the extensive path of the economy's development.

True, ardent supporters of the experiment deny such a goal. P. Bunich, corresponding member of the USSR Academy of Sciences, for example, has publicly declared: "We are not for any increases but for an increase in the manufacture of products which are truly necessary and truly progressive." However, the laudable intentions do not concur with the objective logic of the economic mechanism being tested: it is easiest at each enterprise to achieve a production increase thanks to the manufacture of obsolete products or, which is the same thing, at a price of the deceleration of technical progress. The course of the experiment confirms such a conclusion.

However paradoxical it may be, nor is stimulation for increases capable of ensuring sound permanent increases. It proceeds from the assumption that if each enterprise from year to year produces more products, all of industry as a whole will develop more rapidly. At first sight the idea is unimpeachable. But just as one elephant cannot be put together from a thousand rabbits, an industry does not take shape from a thousand enterprises. Our industry has shown the best rates precisely in periods of scientific-technical revolutions and meaningful structural changes--such as the chemicalization of the national economy and the development of tool manufacture and precision engineering. Next up now are robotics, automation and flexible processes, which promises a new surge for the economy. And the more enterprises begin manufacturing the latest products and the more rapidly they overcome the unpleasant period of assimilation, with a temporary decline in volume indicators even, the higher the overall rate of industrial development will be. Temporary falls in the rate at individual manufacturing plants result in the jump-type growth of all industry--such is the dialectic.

World experience teaches that the rate is altogether not an end in itself. Literally before our very eyes, within the life of one generation, Japan has accomplished three thorough changes in the economy. I remember that at the end of the 1950's the Japanese were purchasing licenses from us for metallurgical innovations. In a matter of years they had created the best ferrous metallurgy in the foreign world and switched resources to the development of more profitable sectors--chemical and petrochemical. Then a new turnabout--toward the production of electronic equipment, ecological

equipment, robots. At each structural change the country has outpaced competitors. Much has been said about the Japanese "miracle". What is the essence of it? Structural changes in the direction of an increasingly science-intensive product? Clearly. Scientific-technical progress? Again, yes. High rate? Yes, but with one amendment: the rate has come as a pleasant side result--it is computed in terms of increases in value, and the latest product is valued more dearly, and under the conditions of rapid scientific-technical progress its production is costing relatively less.

Only for the convenience of analysis is it customary to examine the production structure, technical progress and the rate of development individually. In reality we are faced with one phenomenon characterized from different aspects, and the rate occupies in this triad a subordinate position, furthermore--it is derived from the first two components.

4

Prominent economists who developed the experimental economic model honestly admit: yes, technical progress under the new conditions is essentially not stimulated, this must be rectified; having aroused interest in taut plans, we must now introduce incentives for innovations also.

Whereas increases in production are achieved through economic interests, it is now proposed assimilating the manufacture of more accomplished products by means of direct instructions. However, the directions of technical progress are numerous and diverse and cannot be expressed by some one plan indicator. It is willy-nilly necessary to convey the quotas for each innovation individually. The plan for 1985 employs 193 indicators pertaining to new equipment. As is said (formally), ministries are obliged "to convey them to enterprises of the engineering sectors, providing here for the appropriate explanatory work and strict control of accountability." An even lengthier list of indicators is proposed in the plan model for the next 5-year plan. I learned about it under amusing circumstances. I was received by L. Busyatskaya, chief of the Planning-Economic Administration of the Ministry of Heavy and Transport Machine Building. We were talking about the broadening of the enterprises' rights under the conditions of the experiment. One of Lyubov' Anatol'yevna's subordinates stopped by the office, placed on the desk as a poisonous footnote to our discussion a very fat pile of Gosplan forms for the new equipment plan and inquired what should be done with them.

"Tell them that we cannot fill out the tables. How can we know today which products will pertain to the top quality category in 1990, which to the first? And return this to them as quickly as possible," Busyatskaya instructed.

With what disgust Lyubov' Anatol'yevna pushed away the papers, with what magnificent scorn she invested the word "this"!

Descending the rungs of the managerial ladder, paper has the property of breeding and multiplying, like the fruit fly. The KhELZ is instructed, for example, which products to assimilate, how many of which machine tools to install, what instrument to employ, how many carats of synthetic diamonds to use, how many brigades to form and whom to transfer from manual to machine operations.

Hundreds and hundreds of quotas from an annual, quarterly and some further angle. I examined these bizarre documents at the end of last year, and the file containing the new equipment plans was in excellent condition. It rather looked like it had not been glanced at. Indeed, what could be done with such papers other than file them?

Another version, incidentally, creating in appearance an economic interest in innovations, was tested. All becomes clear from the same case concerning the assimilation of the new electric engine series. Attempting to make the new motors profitable in production from the very outset, economists of the Ministry of Electrical Equipment Industry proposed raising the prices of them. However, the wholesale price may rise only in proportion to the economic effect of the innovation. If, for example, the consumer properties of a product have been improved by a factor of 1.5, under no circumstances should the price rise to a greater extent. Otherwise the innovation would be unprofitable for the national economy.

Stimulation for increases, whether we like it or not, prompts enterprises and sectors to jack up wholesale prices. After all, it is thus easiest to achieve production cost increases. Having once embarked on this path, it is difficult to turn aside from it. Indeed, the KhELZ currently obtains on average a ruble of profit per ruble of wages. In order for the new motor to be advantageous it is necessary to immediately invest in the price at least this profit norm. But proportionate to assimilation there is a sharp decline in labor expenditure and, correspondingly, an increase in profit. Then it would be necessary to invest the price of the next innovation with an altogether incongruous profit norm. And so on ad infinitum, which would lead to a galloping price race. Enterprises would be increasing not the production of products but an accounting figure.

According to the observations over many years of prominent USSR Gossnab specialist V. Doronin, equipment prices are rising approximately 10 percent annually, and this growth is far from always underpinned by product quality. Economic experts give other figures also, some more, some less, but on one thing all are unanimous: the reports on production increases do not reflect the true picture--they do not take into consideration the hidden growth of wholesale prices.

Forestalling this practice and simultaneously accelerating scientific-technical progress is conceivable, I profoundly believe, if conditions come to be dictated not by the manufacturer but the consumer of the product. He who pays the piper calls the tune. The special case here, however, is that as yet the client is paying for the "tune" with money which does not belong to him. In accordance with established procedure, the economic effect of the innovation and calculation of the wholesale price must unfailingly be confirmed by the future consumer. In submitting to the State Committee for Prices the draft of the manifestly overstated price of the new motor, economists of the Ministry of Electrical Equipment Industry got around this obstacle without difficulty. The engine will be purchased by the machine tool manufacturers. Executives of this sector G. Smolko and A. Naumov confirmed the sham calculations of the friendly department with easy mind. And what is there to be ashamed of? In a certain sense costly motors are even more profitable to

the client--then on legitimate grounds there is somewhat of an increase in the cost of the new machine tools and without any effort an increase in the production cost volume in the machine-tool manufacturing sector.

We already indicated the way out when we examined the substantiated nature of demand for products: an enterprise must live and develop thanks to its own resources. Then the consumer himself would investigate the price at which it is profitable to him to acquire the new motor. And if a manufacturer is incapable of keeping within the suggested price, the product does not have to be manufactured--new equipment would be purchased not on account of its novelty but for the sake of the economic effect.

The more sophisticated motor will in about 2 years be cheaper to produce than the old one--consequently, it is profitable to the manufacturer even at the former price. And in other instances a new product is profitable to manufacture barely having completed the unpleasant period of its assimilation.

Yes, today the KhELZ is incurring losses from the manufacture of the innovation. While a man is building himself a new home, he does not live better but worse. But he builds, nonetheless, for he knows what his efforts are for. So here also. The difficult period of the reorganization of production will pass, the plant will offer consumers the new motor at an acceptable price--the collective's prosperity is ensured, let it begin preparing for the next breakthrough into the future. It has fallen behind--don't be hard on it. After all, if the Kharkov people put their product on sale, the remaining manufacturers will willy-nilly have to lower the prices of their obsolete engines. They will have to reorganize production under less favorable conditions than the pioneers of technical progress (there will be less profit, and the reorganization will be paid for out of it). Here scientific-technical progress becomes a vital necessity for the collective. And which innovations to be used specifically--people will decide without very heavy quotas from outside. New equipment will no longer have to be "introduced". After all, this word means that innovations are dragged and shoved by force into some environment which is desperately resisting this.

In our version technical progress is controlled not by means of isolated methods distinct from the control of other economic processes, on the contrary, the economic mechanism itself prompts innovations.

5

Despite all its significance, scientific-technical progress is not the sole concern of the national economy. Almost three-fourths of all expenditure in the production of the industrial product falls to raw material, intermediate products, fuel and energy. We elderly people remember the arresting slogans of the times of our youth: catching up and overtaking the technically advanced countries in the production of pig iron, steel and cement, in coal and oil production.... It seemed to us at that time: just let us achieve this and we will be richer and stronger than everyone--managing untold resources is simple.

According to the calculations of Academician N. Fedorenko, 1.75 times more steel, 2.3 times more cement and 1.6 times more mineral fertilizer is spent per unit end product in the USSR than in the United States.* "In the past 20 years (1960-1980) the economic results of production reflecting the efficiency of the use of resources have had undesirable dynamics...," the academician writes. "The material-intensiveness of output has grown 3.4 percent.... Each percentage increase in national income in the Ninth and 10th five-year plans required an increase... of material outlays of 1.2 percent.... The proportion of intensive factors in the total increase in national income constitutes 25 percent compared with 40 percent in 1960."**

As can be seen from the reports for 1983, for the comparable unit of national income our country recovered or produced 2.2 times more oil, 3.7 times more pig iron, 3 times more steel and 2.9 times more cement than the United States.*** A turn toward efficiency means, in particular, that we have to spend less raw material per unit product. All our plans have been compiled with this aim in view. Thus in the present year the national economy's additional need for fuel, energy and rolled ferrous metals is to be met almost 60 percent thanks to economies. If there are no economies, it will not be possible to fulfill the quotas for the manufacture of products, there will be nothing to make them from.

These vitally important problems the experiment leaves on the sidelines.

We have investigated the reasons for the growth of stocks under the new conditions. But what are stocks? They are raw material and intermediate products which are excluded from the economic turnover or simply unnecessary. Emphasis on quantitative increases, as we have again ascertained, stimulates the superfluous production of motors, machine tools and other property, on which the product of the raw material sectors is spent.

But if we even digress from these global issues and assume for a minute that any product is necessary, nonetheless, there is now no reason for the experimenting collectives to reduce the expenditure of material on a product. Rather the reverse. I have often visited waste fairs (they are held by the supply organizations). Sheet cutoffs of a square meter and more are received here from the enterprises. Complete parts could be cut out or presssed from them, though there were not many customers. Clearly the utilization of waste requires additional labor. Why salvage when one can write off? Production increases are easier to achieve given the extravagant expenditure of material.

The national economy cannot agree to this. This is why alongside the experiment it was necessary to establish special control of the material-intensiveness of products. In a word, the story concerning technical progress is being repeated: since the experiment does not prompt it, let us control it by means of a separate system of measures.

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* VOPROSY FILOSOFII No 10, 1981, p 12.

** Ibid.

*** See the statistical yearbook "The USSR National Economy in 1983," pp 58, 68-70.

And once again all hopes are put in the power of the directive. In accordance with the accepted procedure, norms of the consumption of the basic materials per product are established for the enterprises annually. But, as I have already said, there are 24 million products, and each does not necessarily use one material. Consequently, it is necessary to revise hundreds and hundreds of millions of norms annually. Imagining a superbody capable of performing this work is inconceivable. Preparation of the norms has to be entrusted to the enterprises.

What ensues from this was once described at a Gosplan Board meeting by a leader of the Krasnoyarsk Supply Administration:

"In the construction organizations installing the Kansko-Achinsk fuel-energy complex approximately 2,000 specialists prepare applications for materials. And they all want to deceive us--they overstate the consumption norms in order not to live in poverty subsequently. In order to catch them out the inspector would have to repeat all calculations from scratch. Where to get the staff from? We take the applications on trust."

A few years ago I had a dispute in print with some managers from Kemerovo Oblast precisely about the authenticity of norms. Many will possibly recall that the Kemerovo people had come out with an initiative at that time: economizing on fuel and energy in every possible way. In the mining region people know whether these resources are come by easily or not. The initiative was approved, and shortly after the oblast was reporting successes. But how was the success measured? Very simply: first the initiators obtained after much effort manifestly overstated norms and then began to deftly read off the economies therein. In reality, however, the consumption of electricity, heating and fuel per unit product even increased that year. Following the publication of the calculations, they answered me in the sense that overconsumption is not considered overconsumption if the norm has been confirmed where necessary.

In any event control of material-intensiveness is not a purely economic problem but additionally a moral one, even primarily a moral one. I will recount once again an everyday story. Not so long ago I was instructed to investigate inflated reports in motor transport. Truckers constitute one of the most mass occupations, and virtually the majority of them is forced to be cunning. They are paid by the ton-kilometer. If a driver has hauled in a day, let us assume, 100 tons a distance of 10 kilometers, he has done 1,000 ton-kilometers, and that is the amount for which he is paid. Imagine that a team of truckers operates identical vehicles and that there was one among them who wrote up for himself extra trips. He is on paper the frontrunner, he has high earnings. A temptation for others? Of course. A month goes by. The planners and the norm-setters nail up the results and see: this is good--these vehicles can carry out two assignments. And this being the case, it is time to revise the labor norms. No sooner said than done. Now if inflated reports are no longer written, earnings drop inasmuch as the ton-kilometer is priced more cheaply. In order not to be out of pocket mythical trips have to be reported even by those who have never in their born days engaged in trickery. The discrepancy between the reports and actual haulage grows from year to year and has reached fantastic heights. In some transport organizations there are three sham ton-kilometers per actual ton-kilometer.

Writing up extra tons and kilometers is not difficult--the client hastily signs the logbook without even looking at it. But what about the fuel? If it has not been consumed, even a fool realizes that there has been no transportation. This piece of evidence needs to be gotten rid of. If a private trader turns up, fine. If not, it can be poured off into a ditch. The consumption norm is reduced, but there is again superfluous fuel.

When this entire set of tricks was published, I received a multitude of letters--mainly from truckers. My mail contained devastating facts. Not all truckers are paid by the ton-kilometer. Some are paid for the hours of work. Fuel consumption, it would seem, cannot depend on whether it is piece-rate or time-rate remuneration which operates. Yet, as a reader from Minsk reported, in the Belorussian Ministry of Motor Transport identical vehicles in identical work, given the drivers' remuneration by the hour, guzzle three times more fuel. The secret was revealed by a Baku reader: "I am a trucker myself. About 15 years ago consumption of 120 grams of fuel per kilometer was planned for the ZIL vehicle. Now the norm has been halved, but the drivers are not embarrassed by a lack of fuel. Were the norm to be cut to 30 grams, the trucker could manage on it. It is the inflated report which helps. We once calculated: according to documents, it turns out that every boot hauled from the shoe factory weighs 12 kilos." Truckers who are paid by the hour, on the other hand, get nothing from inflated reports, therefore they report the true fuel consumption.

This is corruption of souls! Yesterday's 10th-grader calls at the service station, but he gets fuel at such a norm. No blame attaches to him--he was still in kindergarten when the norm was established. How will he manage? Cheats on his first run? For what? Truckers do not rake in the shekels, I assure you. A working man has for his money, earned by difficult and unsafe work, in addition to cook the logbook.

Let us take a look at things from the other side also. According to experts' estimates, no less than 4 million tons of state fuel a year move on into the tanks of the light-fingered (legkovushka). For example, more than 10,000 private cars and approximately 3,000 motorcycles are registered in Nizhnevartovsk, Nefteyugansk, Megion, Labytnangi and Nadym, and there is a mass passion for motorboats there... and there is not a single gas pump. On what do these engines run? Or? Better the private trader than the ditch.

Is this not a moral conflict? Some theorists pigeon-hole incentives to labor--on the right material, on the left moral. I would like to take a closer look. Meanwhile the boundary between them is shifting and illusory. An honestly earned, legitimately spent ruble ought to afford a person perhaps no less self-respect and honor than a reward. The ruble has two sides. On one the face value, on the other the emblem of the fatherland--the symbol of all that is dear and sacred to us. Economists should perhaps glance at the obverse somewhat more often when they plan economic models--that same system of controlling material-intensiveness, for example.

The case of the truckers is, of course, rare and, it may be said, exceptional: on the one hand unrealistically rigid norms operate, but on the other millions of tons of gasoline escape no one knows where. But even in other not so transparent situations there is any amount of extravagance in respect of the norms. I will tell you about one sensational case. A criminal gang headed by one Ivanov, a person of no fixed employment, operated in the city of Podolsk just south of Moscow. Agents of the clandestine firm traveled about the country concluding contracts with textile enterprises for the supply of equipment spares on behalf of kolkhoz subsidiary shops. The organizers of the speculation surrendered half of the proceeds to the kolkhoz till, the other half they appropriated. In just 3 years they had obtained more than R1 million in ready cash. In the course of the investigation over 500 stooges who for a pitiful bribe had signed the payment registers were uncovered. The ringleader of the firm built himself two private houses, purchased four cars and acquired a personal chauffeur and bodyguards.

In reality no subsidiary shops existed--the swindlers talked their way into the right to use the kolkhoz stamps and forms. But where did the product come from? It is now no secret. The spares had been manufactured in shops of Podolsk enterprises.

From the testimony of U. Abdul'manov, mechanic at the Podolsk Machine Shop imeni Kalinin:

"Ivanov gave me a sample of the product and indicated how many he needed. We negotiated the fee on the spot. I received R6,000 from him altogether. We made the spares in the shop. I got the materials from the warehouse. One time Ivanov ordered from me springs. I paid R3 per coil of wire weighing 120 kilos on condition that the warehouse man himself deliver the wire. I packed the finished springs in boxes. The boxes were taken from the plant by car--I hired our drivers. I paid them R10 per trip. I myself climbed into the front seat past the entrance gate."

From the testimony of G. Chizhikova, former leader of the shop traffic control office:

"The mechanic would often stay behind to work in the evenings and at night--he had allegedly been given permission for this by deputy shop chief Dedov. As foreman Bazhenin explained to me, they were fulfilling the orders for another section."

As you can see, the plant was pilfered bit by bit before the very eyes of an honest people, and this was only detected by investigators for particularly important cases of the USSR Prosecutor's Office. And this is interesting: from year to year the enterprise reported savings of material.

The investigation of this case took 2 years, the criminal proceedings lasted a further 2 years. Following sentencing, I decided to visit the plants where the products had been riveted on the side and asked to participate in Mosglavsnab specialist A. Osipov's inspection. But the following was to happen: 2-3 days before our arrival there was again an extraordinary occurrence at this same plant--some officials had been arrested at the very moment they, having broken the seals, were pulling out of the vehicle sewing

machines which they had transported from the plant. As my companion established, the machines did not figure in the plant accounting, and if the thieves had not been caught in the city, the loss would have gone unnoticed. At my request A. Osipov attempted to study the system of registration of material values, but by the end of the second day's work he threw up his hands in despair--the selfsame values figured in dissimilar quantities in various documents.

"We have mass production here, tracing every product is impossible," the plant's chief accountant, E. Urbanskiy, explained. "Thieves have to be caught outside of the plant. After all, they sell the goods somewhere."

Total surrender, as they say. However, we managed to turn up something when we analyzed the consumption norms. I ask the reader to go into some tedious figures. In the previous year the expenditure of 3.5 tons of polystyrene was authorized per the norm per R1 million of the cost of sewing machines, but 2.1 tons were actually consumed. One wonders what kind of norm should have been established for the next year? Not, it would seem clear, higher than actual consumption, otherwise the norm would incite extravagance, would it not? No. At the plant's insistence it was established at the level of 3.6 tons. Some 2.4 tons were expended in practice. Now look what happens: specific consumption of polystyrene increased in a year from 2.1 to 2.4 tons, but compared with the norm there was a saving. A fine report is ensured, as are bonuses for thrift. The picture is the same for the consumption norms for polyethylene, rolled ferrous metals, copper and much else. The plant is briskly peddling materials in short supply, they are being pilfered, as before--it is a rare day that the guards do not detain "carriers". We uncovered similar facts at the "Akkumulyator" Plant, where figures who are now in localities not that far off also were at work at one time.

Whichever way you look at it, it is a little early to consign the scandalous Podolsk affair to the archives. Conclusions still have to be drawn from it. Of course, in the grand reckoning we are all coproprietors of the common wealth of the country. Squanderers are ultimately robbing each of us. However, the "common pot" is too big for a worker to every day perceive the connection between personal benefit and thrift on a national economy scale. I see precisely this as the defect of the exclusive system of control of material-intensiveness--state property is consumed as if it were no one's. The amount written down in the wage register is insufficiently dependent on how zealously a given collective and specific worker have kept house.

Since the economic experiment does not tackle this problem, another economic mechanism is needed: thrift should multiply the end result thanks to which each member of the production collective lives and prospers.

The list of individual tasks which without visible success are being tackled today separately, unconnected with the overall system of production control, could be continued. For example, at plants which are conducting the experiment I asked dozens of workers the identical question: what rights is the enterprise short of? And do you know in what the leaders are restricted most? They have not been given the right to determine at their discretion

the numbers of the managerial staff, this is what is distressing. Hereupon one is given calculations: if the Ministry of Finance's annual quotas concerning staff reductions had been met, one director would today be working in the plant's administration. This is infinitely witty, nonetheless, my sympathies are on the side of the Ministry of Finance, which has for many years been fighting a lonely battle against swelling staffs. Or rather, to use Shchedrin's expression, not so much has been fighting as has been overwhelmed--there is no shortage of administrators.

It is conceivable entrusting the list of members of the staff to the board of directors again only of a financially autonomous collective. Some people like to keep hangers-on. And, what is most important, to no purpose. We have been convinced that compiling reliable applications for material before having received the production plan is unthinkable; compiling hundreds of millions of consumption norms and monitoring them is unthinkable and squeezing into the plan every motion of the creators of technical progress is unthinkable. But executives are performing all this work, with a diligence that would put Sisyphus himself to shame. If Sisyphus' rock were taken away, however, he would probably get down to work.

6

In design the experiment contemplates a broadening of the independence of the enterprises and an abandonment of the planning of intermediate operating results. It was expected that it would be sufficient to set the final result from above, then the details could be entrusted to the lower levels. This has not yet been the case in practice. And the reason why it is not the case, I believe, is that the indicators pronounced final are in reality not such: compliance with contracts and production increases, despite all their significance, still do not determine the appearance of the domestic economy.

What, then, serves as the final criterion which would prompt the enterprise to operate efficiently and the entire national economy to ensure continuous and rapid progress? Let us try to outline the sought-for ideal. From the entire proceeds for a product an enterprise immediately deducts the cost of materials and depreciated equipment. These resources (the so-called compensation fund) are necessary for the continuation of production in the former volumes. Then from the proceeds come settlements with the treasury. The enterprise, be it Magnitka or a plant of the most modest size, belongs not to the service personnel but all of society. Naturally, budget contributions are established for the use of production capital. Finally, the plant settles accounts with the banks for credit. The remainder is the property of the collective. It is the purpose of all the workers' efforts.

I sense that the experienced reader is on the alert: what is this, yet another miraculous indicator? Have there not been enough of them? For dozens of years economists have been inventing plan indicators, of which one was allegedly to have been predominant. This role was performed for a long time by the gross product. It performed it badly: it is sufficient, for example, for an autogenous welder to cut metal, and its cost will be counted as part of the gross

product (the example, incidentally, is not invented. This is how they behaved about 40 years ago in one ministry--the plan was getting too hot for them, so they ordered the cutting of echelons of rolled metal which had just been delivered. The metal was needed by another sector for an exceptionally important purpose. They suddenly remembered--but it had gone. The anger of the authorities was terrible). Later the collectives came to be appreciated for commodity, that is, finished, output. Once again a puncture--the finished product would lay in warehouses for months. An evaluation in terms of sale was introduced: it was not enough to manufacture, it was necessary to sell as well. And a hitch here also: in 1980 industry increased sales by R22 billion, but in terms of contracts there was a R17 billion shortfall in the supply of goods. Consequently, it is possible to sell not what the consumer needs. Today only contractual supplies are taken into account. The result is known from statistics which I have adduced: heaps of superfluous products are being moved from the suppliers' warehouses to the consumers' warehouses.

The quest for indicators which would work for us touches on the amusing. One participant in an economic discussion of the 1960's, I recall, publicized the improbable "man-capital product".... Now the author has invented something new--residual income. Could it be a miracle nonetheless?

I understand, oh, how I understand the hypothetical skeptic. But the proposed measure of success is not just another indicator in the generally accepted sense for the reason that it is not necessary either to plan it from above or monitor fulfillment. Residual income is essentially the main source of the very existence of the collective and each member thereof. It, as is easy to understand, contains all component parts--wages and profits. The boundary between them is mobile. Wages can be increased, but then profits would diminish, and, consequently, there would be fewer resources for the construction of kindergarten, accommodation, sports facilities and other social needs and for the renewal and expansion of production. It is possible, on the other hand, to be content as yet with modest wage increases as a foretaste of future benefits.

It would also be somewhat more sensible for the plants manufacturing electric motors, for example, to reason thus. After all, obsolete engines will not find a market tomorrow. If the time for the reorganization of production is let slip, there will be no resources for earnings even in the previous amounts. It cannot be ruled out that production will have to be closed down altogether. And, please, no panic. I did not say: the plant will have to be closed down. Only production. And these are two different things--another product may be made in the same areas if the former product is no longer being purchased.

This system is simple and logical. The place of individual plan indicators is occupied by economic interest, and the need for the exclusive control of individual aspects of production life disappears. Or recall the situation involving the uninstalled equipment. No one would dare say that managerial authorities are reconciled to the freezing of these resources. Decrees and directives are being issued constantly, and Stroybank workers are sending quintals of instructions to the localities. But the effect? Last year equipment stocks had approximately tripled compared with 1967, whereas the commissioning of new production capacity increased quite modestly, to say no more. Economic

responsibility works more precisely than a directive. The plant collective could rapidly commission and recover the costs of equipment, and, if it wishes, just admire unopened crates. The charge is identical--society should obtain its share for the invested capital in any event.

As yet it is customary to consider that if capacity has been introduced and if equipment has been commissioned, all is in order. But the journal KOMMUNIST reports: the total value of fixed capital which is not being used constitutes in industry no more, no less than approximately R80 billion.* Let us count up a little. In a year industry obtains approximately R50 billion of new capital. Consequently, for almost 2 years construction workers and the suppliers of equipment and construction materials have been running idle--they have introduced facilities which are simply superfluous. Yet sector leaders, shaking loose money for construction from the treasury, have proven that it is impossible to live without these facilities. And it is not only the direct losses which are the trouble here--again technical progress in the national economy is invisibly impeded. Extensive construction swallows up the bulk of resources, none are left for the renewal of operating processes. The situation is paradoxical: new, brand-new shops are inactive because there are no workers, and there are no workers because at the old plants the equipment has become decrepit and labor productivity is only growing slowly there and not enough people are being released.

The financially autonomous collective would act differently. It could not afford to luxuriate. It would start to build a new shop, confident that manpower would be found also. But inasmuch as there is a tight situation here, equipment would be ordered more often for the renewal of production, which means technical progress.

And what about consumption of materials? Given an orientation toward the end result, spendthrifts would be punishing themselves. Then why dictate, let us assume, to an auto-assembly plant how much nickel should be expended per fender? Use platinum if you like, only the cusomter will not recognize the judicious nature of this expenditure with his ruble, and the plant will go bust.

The party is orienting us toward the creation of such a universal model. The CPSU Central Committee Politburo has given instructions for an improvement in the conditions of the economic experiment, "referring to the consistent strengthening of financial autonomy, the increased influence of the economic mechanism on an acceleration of scientific-technical progress and the better use of labor, material and financial resources."** As we can see, a direct instruction has been given: it is necessary to control the most important economic processes not individually but by means of an integral system, the core of which is the "consistent strengthening of financial autonomy."

Individual regulations from above would not then be necessary. In addition, nor would we need a uniform directive indicator according to which someone would evaluate in a detached manner the work of a collective. In principle

* See KOMMUNIST No 5, 1984, p 122.
** PRAVDA, 24 August 1984.

such a universal measure exists--it is profit. It truly reflects all aspects of the collective's activity. But what of this? Upon an evaluation in terms of profit, as, incidentally, in terms of any other measure, the main question remains open: what interest is there in increasing profit when it is disposed of not by the plant collective but someone else? True, material incentives for an improvement of selected indicators have been introduced, but they extend merely to the bonus part of earnings, which comes to barely a 10-kopeck piece per ruble of wages. And the 10 kopecks are not received all at once--dozens of conditions of the conferment of bonuses have to be observed. The bulk of the wages, however, is fixed in advance. Essentially the worker is as yet entering into contractual relations not with the enterprise but directly with the state, which establishes the wage rates and salary scales. Earnings depend insufficiently on the results of the activity of a given collective.

A plant's successes are capable of affording a worker only moral satisfaction, and he is generally indifferent to the far-reaching designs of the board of directors. Some hotheads hit upon the fact that it might not be a bad idea to elect directors at a meeting. For what reason, however? For the normal person this is unnecessary for as yet he can obtain at a lagging enterprise no less than at a progressive one and frequently more.

My entire thought concerning remuneration from residual income is to establish a direct connection between wages and the end result of the activity of the plant collective. For me, a worker, here it is not all the same who leads the plant. My interest is in today, now obtaining more. In other words, increasing the proportion of wages in residual income thanks to profit. The director, who sees further than me, cautions: if we have not invested resources in the development of production, we will get nothing for our pains. In order to forestall short-sighted consumerism a progressive tax on the increase in wages could be imposed initially. It would be permitted, say, to raise the average plant wage 5 percent per annum gratuitously, if, of course, the income permits. If you wish to receive more than 5 percent, be kind enough to contribute to the treasury from residual income R1 of tax per additional ruble given out. Each subsequent ruble would be doubly or triply taxed for the benefit of society.

I note with pleasure that these ideas, which even recently were giving rise to superstitious horror, are being discussed in businesslike manner in the press.* After all, the first experiment is to hand. An economic experiment in precisely this spirit is being conducted at a goldmine. Previously everyone was paid here for his individual work: the bulldozer driver for cubic meters of sand quarried, the hydrowasher for the quantity of washed rock, the engineers and technicians for the hours of work, more simply, merely for the fact of honoring the mine with their presence. Earnings were computed in terms of piece rates and salaries. They did not depend on the overall number of workers. New rules were introduced as an experiment. The mine began to operate from the proceeds: for a gram of gold surrendered to the state. If you have recovered a ton, kindly take so many million rubles. Reimburse from

* See A. Aganbegyan, "The Experiment and Financial Autonomy" (TRUD, 28 and 29 August 1984).

them the cost of the materials and the leasing of equipment and deduct the amount stipulated for the treasury and the enterprise's general funds. Divide the remainder among the workers as you yourselves see fit. The result is stunning: previously the mine had just under 1,200 workers, currently less than 300 are coping with the same volume of mining. Consequently, labor productivity has leaped fourfold. A similar system has been applied experimentally in the construction of gas pipelines--the pace of the laying of the gas mains has doubled, labor productivity has increased by a factor of 1.5.

Strong trigger impetus to the reorganization of the economic mechanism was imparted by the decisions of the CPSU Central Committee April (1985) Plenum and the meeting in the Central Committee on questions of an acceleration of scientific-technical progress. There was sufficient talk about intensive factors of our development previously also. The difficulties in the national economy which arose as of the start of the 1970's were recognized before today. However, the measures which were adopted were half-baked and inconsistent and implemented timidly. The fundamental novelty of today's decisions is that they do not simply set forth goals but indicate methods of achieving them. It is intended increasing the efficiency of the centralized principle in management and planning through a broadening of the economic independence and responsibility of the enterprises and associations and through financial autonomy and commodity-money relations, using the entire arsenal of economic levers and stimuli.

The enterprise collectives will themselves have to earn the resources for a rise in the technical level and efficiency of production and dispose of them independently. Particular benefits in pay will be obtained by those which produce the best product and compete successfully on the world market with the leading firms. It is actually a question of extending the proven collective contract to the activity of the associations and enterprises.

In harmony with these ideas it is planned to reorganize the structure of management. A completely financially autonomous basic component, that is, an enterprise or production association, will, as a rule, be directly subordinate to the ministry. The essence of this innovation is not only that superfluous managerial authorities are cut out and leadership of the economy is made less costly. The main thing lies elsewhere. In any managerial system the sum total of rights is a constant value. Powers may be divided this way or that, but in having accorded, let us assume, a main administration some right or other, you are thereby depriving the enterprise of this right. And the reverse. Otherwise there would be a so-called collision of rights and simply confusion and lack of responsibility. It is perfectly obvious that in practice authority in this case would end up with the body which is higher on the hierarchical ladder. The abolition of intermediate components entails with a certain automatism a real broadening of the rights of the enterprise, which is precisely in accord with the ideas of the reorganization. The new economic mechanism will acquire an adequate organizational structure.

The concept of reorganization is now clear, as a whole. It is a matter of implementing it, without lingering, in a specific economic mechanism. At the recent meeting on questions of an acceleration of scientific-technical progress the warning was heard with all certainty: ministries and departments

are capable of so "swaddling" enterprises' independence and so interpreting the decisions of the Central Committee and government that after all the departmental recommendations and instructions only fragments remain of these principles.

This has frequently been the case. I will give one example of tremendous significance. There has long, and rightly, been talk of the shortcomings in the organization of capital construction--the dispersal of resources at an inordinate number of construction projects and the growth of "incompletes". Indeed, we now have roughly 350,000 construction projects, with an average of about 12 construction workers per project. This nonsense is largely explained by an evaluation of the activity of the construction organizations. Economic historians undertook a piece of research and uncovered a striking fact: the operating criterion of evaluation (the volume of construction-installation work) was introduced at the start of the First Five-Year Plan, and was introduced, provisionally, furthermore, "until a better indicator is found." More simply, the construction workers are valued and loved for what they have assimilated and for having spent much money, but whether the resources have been buried in the ground, in foundations, or have been returned in the form of finished projects--the evaluation does not catch this. A most authoritative decree was promulgated in 1969. It was explained most thoroughly: henceforward the construction workers would be respected for the handover of finished projects and only for this. However, the operating instructions, which had been compiled by the economic departments, contained one at first sight unremarkable point: the wage fund is added up depending on the monetary volume of work done. What results? The trust is set a norm, 40 kopecks, let us assume, per assimilated ruble goes on wages. Pay day approaches. The salaries of time-rate workers is known, the orders of the piece-rate workers are nailed up. The sum total of payments for the trust constitutes, for example, R400,000. The bank will issue this money only on condition that a R1 million worth of work has been performed in the month. If this million is not in sight, the manager of the trust will be forced to take construction workers away from projects nearing completion and transfer them to pecuniary work, albeit at knowingly break-down projects. The small point of the economic rules completely vitiated the fundamental directive. Ten years later, in June 1979, a new decree was issued which, inter alia, reiterated the demand for the construction workers' labor to be evaluated in terms of the handover of finished projects. And, as before, the wage fund was added up as a fraction of the money assimilated. What resulted from this hardly needs repeating.

This is why the party is now posing with particular seriousness the question of personnel's mental reorganization. The times demand not only approval of the party decisions but actions and their practical implementation--by everyone at every place of work. The style of efficiency and responsibility which is now being established in economic, and not only economic, activity will serve as a guarantee of success.

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

ECONOMICS INSTITUTE OFFICIAL DISCUSSES GROWTH RATE, QUALITY

Moscow KRASNAYA ZVEZDA in Russian 22 Aug 85 pp 2-3

[Article by V. Kulikov, deputy director of the USSR Academy of Sciences Institute of Economics, doctor of economic sciences: "Rates and Quality"]

[Text] The concept of accelerating the country's socioeconomic development on the basis of scientific and technical progress, formed by the CPSU Central Committee April (1985) Plenum, is aimed at achieving a qualitatively new state for our society in the very broadest sense of the word. In setting the task for this kind of acceleration, the CPSU Central Committee has in mind not simply increasing the rate of growth in our economy. It is a question of a new quality of development, a rapid advance along strategically important salients, a structural reorganization of production, a switch onto intensive rails and efficient forms of management, and the more complete resolution of social problems.

Naturally, the development of Soviet society will be determined in a decisive manner by qualitative shifts in the economy, the intensification of the economy, and improvements in its efficiency.

1. The Soviet Union now has at its disposal a powerful, comprehensively developed economy. Suffice it to say that the volume of fixed production capital in the national economy has now topped R1.6 trillion, and the national income used exceeds R500 billion. Today, Soviet industry produces more than was produced by all countries in the world in 1950. In many directions of production, science and technology the USSR occupies leading positions in the world. A ramified national economic structure has been created within the Soviet Union, including the newest sectors born out of the scientific and technical revolution.

Social programs are being successfully implemented. Much has been done to improve housing and cultural and everyday conditions and the well-being of the people in general. During the period since 1940 real per capita income has more than sextupled.

The country has skilled cadres of workers, specialists and scientists.

In short, the successes in socioeconomic development--and they are major successes--are obvious. But it must also be seen that since the Seventies (particularly in the late Seventies and early Eighties) the country's economic growth has slowed down.

The slowdown in the rate of economic growth has exerted an adverse effect on the balance of the economy, including the market for consumer goods and services. The arithmetic here is quite elementary. Money payments being made to the population are increasing at about 2.5 to 3 percent annually. This means that in order to support the existing relationship between demand and supply, labor productivity must be increased by the same amount, and in order to improve the state of affairs in the market for consumer goods and services, labor productivity must be increased by a significantly greater amount.

The opportunities for implementing social programs, which in a socialist society cannot be curtailed, depend ineluctably on the rates of economic development. Accelerating scientific and technical progress and on this basis the comprehensive intensification of social production and a fundamental improvement in its efficiency, make it possible to create a reliable foundation for a substantial advance in resolving urgent social tasks, which affects in a most positive way people's frame of mind and their attitudes towards public affairs.

The slowdown in production growth rates has also been reflected in the course of our economic competition with capitalist states. Whereas over the decade from 1960 to 1970 the gap in the level of labor productivity in industry in the USSR and the United States was closed 9 points, during the next 10 years, it closed only 2 points; and in the early Eighties the relationship has remained virtually unchanged.

In this connection it is impossible not to recall Lenin's principal that superiority in labor productivity is major for the triumph of the new order. This is why the party is setting the task of achieving the world's highest level of labor productivity. It is difficult to overestimate the sociopolitical consequences of achieving this. The successful resolution of this task will consolidate in a fundamental way the positions of socialism in the world, and its attractive force will grow sharply.

The need to accelerate socioeconomic development also results from the requirement to insure total technical and technological independence from the capitalist countries, primarily along the strategically important salients. And finally, this kind of acceleration is dictated by the interests of strengthening the defensive might of our state. The Soviet Union, comrade M.S. Gorbachev said in his report to the CPSU Central Committee conference on accelerating scientific and technical progress, will henceforth also apply maximum effort to halt the arms race, but in the face of the aggressive policy and threat from imperialism we must not allow it military superiority over us. This is the will of the Soviet people.

Thus, a substantial acceleration in the country's socioeconomic development on the basis of scientific and technical progress is called for by both internal and external circumstances.

2. Under the conditions of slower economic growth rates, an attitude of acceptance of the existing situation is starting to spread among scholars and economic executives. This has taken place under the flag of realism. And here they point to a number of adverse factors of an objective nature (the increasing cost of raw materials and energy as the result of the shift of these sectors

to the North and the East, the deterioration of the demographic situation, increased expenditures on ecological needs and so forth), which, of course, cannot fail to affect economic development. However, no one has been able to prove, or can prove, that the effect of these factors cannot be compensated for.

It is also a question of strong forces of inertia in the economy. Hence it is concluded that it is in general hardly possible to overcome the downward trend in growth rates (to replace the minus with a plus).

The reference to forces of inertia itself is justified, but the point is that these forces are not absolute. They are opposed by cumulative processes in the economy, when a positive shift in one sphere spreads with a growing effect to other spheres.

Life long ago refuted the idea that it is impossible to overcome a downward trend in economic growth rates: whereas in 1982 labor productivity growth in industry was 2.1 percent, in 1983 it was 3.6 percent, and in 1984, some 3.8 percent.

It is also sometimes asserted that for a large-scale economy such as the economy of the USSR has become, falling growth rates are supposedly natural and not dangerous since the real content of each percentage point of growth is increasing.

This kind of increase can, of course, occur. Thus, given the significant decline in the average annual increase in national income in the USSR during the period 1971-1980 compared with the period 1951-1960, average annual absolute growth was R18 billion (in 1970 prices) and R12.2 billion (in 1950 prices). In 1982 one percentage point of growth in national income was, in terms of its real content, equal to almost 10 percentage points of growth in national income in 1950. However, given all the importance of the absolute size of growth, in and of itself it cannot provide the required dynamism and a new quality of social development.

But let us return to the question of what led to the decline in economic growth rates. Let us note first and foremost that a comprehensive analysis conducted by collective efforts has shown that there has been no fatal inevitability about this decline. The main reason for the difficulties in economic development was that the economy was being restrained within the framework of a predominantly extensive growth, even though opportunities for this had been mostly exhausted. And from this followed the fundamental conclusion about the need to compensate for adverse factors and to accelerate movement on the basis of comprehensive intensification of social production. And it is this that is the true realism in economic policy.

In his report to the CPSU Central Committee April (1985) Plenum, comrade M.S. Gorbachev stressed that "The task of accelerating growth rates, and accelerating them substantially, is quite realizable if we place at the center of all our work the intensification of the economy and the acceleration of scientific and technical progress, restructure management and planning and structural and investment policy, improve organization and discipline everywhere, and radically improve the style of activity."

In order to obtain a relatively fast return we must first and foremost activate the human factor--the decisive factor in all change.

3. As it sets the task of accelerating socioeconomic development, the CPSU Central Committee indicates the ways for its successful resolution. This applies both to increasing growth rates in the national economy and to achieving a new quality in our development. It is assumed that increases in the rates of economic development will be achieved through fundamentally reorganizing the national economic structure and guaranteeing a priority position for the sectors on which scientific and technical progress, the agro-industrial complex, and the production and social infrastructures depend.

The main element of the party's economic strategy is a course toward accelerating scientific and technical progress. Here it is a question of replacing evolutionary processes with revolutionary advances, and of the kind of acceleration that would enable a new, technical reconstruction of the national economy to be organized and switched to a qualitatively new technical and technological level, and the material-technical basis of society to be qualitatively transformed.

These new approaches, insuring a sharp turnabout toward intensification of the economy, are incorporated in the draft Main Directions for the Economic and Social Development of the USSR for the Period 1986-1990 and for the Period Through the Year 2000, which will be considered at the 27th CPSU Congress.

The main thrust today is on the retooling of enterprises. This is because many existing enterprises have not retooled for many years and a considerable part of their fixed capital has become obsolete. And also because capital investments directed toward reconstruction provide about double the return on investment than does new construction. Accordingly, provision is made in the Main Directions for a considerable increase in the proportion of funding, as part of total capital investments, allocated for reconstruction--from one-third to one-half.

The basis of scientific and technical progress is machine building. The party attaches great importance to its development. The question of measures to radically improve the technical level and the quality of machine building output, and the development of machine building during the 12th Five-Year Plan and in the long term through the year 2000 was recently examined at a meeting of the CPSU Central Committee Politburo. In the decree adopted by the CPSU Central Committee and USSR Council of Ministers provision was made for the priority development of the machine building complex and creation of the conditions essential for a rapid switch to the production of a new generation of machines, equipment and instruments capable of substantially improving labor productivity within the national economy. During the period 1986-1990 capital investments to develop machine building will exceed the total of funding assimilated during the 11th Five-Year Plan by a factor of 1.8. And at least half of all investments will be allocated for the retooling and reconstruction of existing enterprises and renewal of the active part of fixed capital.

Priority development of the machine building complex will make it possible to create the necessary material-technical base to supply the national economy on a qualitatively new basis through increasing the volumes of highly efficient machines, equipment and instruments produced.

The thrust is also on every possible economy in resources. Today it is becoming increasingly difficult to recover oil and raw materials. This means that it is essential to make economic use of everything that is recovered from the bowels of the earth, and of everything that is produced. The extensive introduction of resource-saving technology is essential: this is two or three times cheaper than building up the recovery oil fuel and raw materials. The party has set the task of satisfying 75 to 80 percent of the growth in national economic needs for fuel, raw materials and materials through savings. And this is intensification: to produce more output at less cost. A regime of thrift--this is the road to our wealth, the task of tasks.

Great importance attaches to improved output quality. It is no secret that in the past the high rates in individual sectors were maintained by lowering quality. Today this road is impermissible. Low output quality, and even more, substandard quality, is not only a form of theft of material resources and not only a waste of labor but also a serious obstacle against the intensification of production and the acceleration of scientific and technical progress.

Output quality is a very objective and generalizing indicator of scientific and technical progress, the level of production organization, and standards and labor discipline. Shortcomings in this matter do considerable scocioeconomic and moral-political harm. The party puts the question this way: output quality should be an object not only of professional but also national pride.

It has been deemed necessary to make our economy as receptive as possible to scientific and technical progress, and to insure a vital interest in this in all elements of the economy, giving them inescapable responsibility for the introduction of the achievements of science and technology and for moving ahead to the foremost frontiers in the world. One important step in resolving these cardinal tasks and in creating an integrated national economic management system that meets the new requirements will be implementation of the measures outlined in the CPSU Central Committee and USSR Council of Ministers decree "On the Extensive Spread of the New Management Methods and Strengthening Their Effect on the Acceleration of Scientific and Technical Progress."

We see that the acceleration of socioeconomic development covers a broad range of problems--economic, organizational, social--the development of culture and education, and the activities of upper management echelons and of each element of the national economy. The party has drawn up a program that guarantees movement along the course that has been set

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We may now consider that we have overcome the former facile ideas about ways and periods for society's movement toward communism, stemming from unconfirmed propositions about the short duration of the socialist phase and the possibility of forcing the pace of this phase. But prolongation of the socialist phase is by no means the same as slowing down development in this stage. In its very nature socialism is a highly dynamic social organism, and the question is only how to make full use of its potential and all its historical advantages.

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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

REVISION OF USSR STANDARDIZATION LAWS EXAMINED

Moscow STANDARTY I KACHESTVO in Russian No 6, Jun 85 pp 3-6

[Unsigned leading article: "New Normative Acts on Standardization and Metrology in the USSR Code of Laws"]

[Text] At the Soviet state's present stage of development, law has become much more important to the country's economic -social development. The consistent improvement in state management in recent decades has led to the formation of a well-developed mechanism for legislating government policy in the USSR.

The party and the government are constantly making new, stricter requirements on the development of existing legislation. The status of this legislation has a direct effect on the operation of management bodies, enterprises, institutions and organizations and, in the end, has an effect on the efficiency of public production and the socio-cultural development of socialist society. The main goals of legislative activity in the country are: 1) to use both existing and new laws to promote the prosperity of socialist democracy and 2) to enable the broad masses to be drawn more closely into interested participation in the management of production, the state and society.

An important step in solving these tasks was the preparation and promulgation of the USSR Code of Laws. This was done in accordance with two decrees of the CPSU Central Committee, the Presidium of the USSR Supreme Soviet and the USSR Council of Ministers: "On the Preparation and Promulgation of the USSR Code of Laws"[1] of 2 September 1976 and "Problems of the USSR Code of Laws"[2] of 23 March 1978.

During work on these decrees, special attention was given to the development of management legislation: of the 105 normative acts developed in conjunction with the preparation of the USSR Code of Laws, 67 relate to this area, including normative acts on standardization and metrology.

The basis of legislative improvement in promulgating the USSR Code of Laws was the development of codified and other consolidated acts, as well as acts aimed at eliminating existing deficiencies in legislation. This

principle was made the basis for the legal regulation of standardization and metrology in the country.

Previously existing normative acts, which established: 1) the organizational bases of standardization and metrology, 2) the procedure for supervising standards and means of measurement and 3) the mechanism of responsibility for violations of standardization and metrology rules, were codified. This created a well-structured group of legal measures which ensure that products are technically advanced and of high quality. Since these problems were solved during the preparation of the USSR Code of Laws, this codification can be considered primarily as forming the legal basis for standardization and metrology in the country. The codification was based on the following documents: decrees of the USSR Council of Ministers, "On Organizing Standardization Work in the USSR"[3] of 7 January 1985, "On Ensuring Unity of Measurements in the Country"[4] of 4 April 1983 and "On State Supervision Over Standards and Means of Measurement in the USSR"[5] of 28 September 1983; the Ukaze of the Presidium of the USSR Supreme Soviet, "On Administrative Responsibility for Violations of Rules on Standardization and Quality of Products and Goods Put Into Circulation and on Content of Means of Measurement and Their Use"[6] of 18 May 1984 and the Statute on the Procedure for Applying Economic Sanctions for Violations of Standards and Specifications, which was approved by the USSR Government, the State Committee for Science and Technology, the USSR Finance Ministry, the USSR Central Statistical Administration, the State Standards Committee, and the USSR State Committee for Prices on 12 July 1983.

The adoption of the above documents eliminated the previously existing multitude of different legal acts covering the same problems of standardization and metrology. It also eliminated the contradictions, discrepancies, unfounded limitations and petty regulations in the previous acts, which limited the initiative of enterprises and organizations. The norms of the new acts, in a number of cases, greatly increased the legal regulation of problems which had previously been resolved by departmental documents. These norms also eliminated gaps in standardization and metrology legislation. At the same time that the normative acts developed during the formulation of the USSR Code of Laws were published, over 20 obsolete acts and individual legal norms on standardization and metrology were abolished.

During preparation of the USSR Code of Laws, the main principles used to improve standardization and metrology legislation were to single out the general norms which are permanently in force and standardize them into several normative acts which combine related groups of norms. It was unfeasible to combine all norms into a single act, since such an act would be quite large and contain a wide range of statutes, possibly causing difficulties in practical application.

The preparation of consolidated acts on problems of standarization and metrology raised the problem of coordinating these norms with the statutes

of the "State Standardization System" [GSS]. Would not the parallel existence of these documents cause competition and duplication of directions? The answer to this question is no. The purpose of the set of standards in the "State Standardization System" is to develop in detail the statutes established by legislation. Therefore, when standardizing the existing legislation, no methodological or procedural problems were resolved. The GSS standards regulate these and other departmental normative acts.

Taking the above into account, during the formulation of the USSR Code of Laws, the entire body of legislation on standardization and metrology was critically analyzed. This included over 1000normative acts systematizing the relationships in this area. The study of this legislation's structure and the functional role of its elements in the mechanism of legally guaranteeing product quality showed that the first improvements needed were in the most important, principle legal directions which determine state policy on managing the quality of products, work and services. This part of the legislation is basic for ensuring that development is scientifically and technically advanced and that standards are approved, implemented and observed. It is also basic for the country's standards of measurement. The inclusion of similar statutes in the normative acts prepared and accepted during the promulgation of the USSR Code of Laws will create reliable legal guarantees of product quality in the country.

The basic document of the group of normative acts on standardization is the decree of the USSR Council of Ministers, "On Organizing Standardization Work in the USSR" of 7 January 1985. The decree provides for the normative consolidation of: 1) the general principles and system of standardization in the USSR; 2) the system of bodies which carry out standardization and their competence and 3) the basic requirements for the development, approval and implementation of standards. This consolidation is aimed at establishing the organizational bases of standardization. United by a common goal, these statutes are aimed at regulating the development, approval, implementation and observance of standards and also are the legal basis for guaranteeing standardization.

The decree determines the main directions of improving the organization of standardization work in the USSR, based on the decisions of the 26th CPSU Congress and subsequent CPSU Central Committee Plenums, as well as decrees of the CPSU Central Committee and USSR Council of Ministers. These decrees determine the path to all-around intensification of the economy, the acceleration of scientific-technical progress, the growth of labor productivity and the maximum conservation of material and labor resources. They ensure, on this basis, constant improvements in the country's economy and the welfare of the people.

The adopted decree establishes the main task of standardization in the USSR to be the development of a system of normative-technical documentation which determines the progressive demands on: 1) products manufactured to meet the needs of the national economy, the population, national defense and export and 2) the development, production and application of these

products. The task also includes monitoring the correct use of the documentation. Based on this and in order to ensure that the main task of standardization is carried out, provision is made for the standards and specifications to be based on the highest achievements of domestic and foreign science, engineering and leading experience.

This definition of the main task of standardization orients all economic sectors toward making maximum use of standardization's possibilities in order to ensure the quickest possible development and output of products whose indicators meet or exceed the highest world levels, based on the most important indicators of technical advancement and product quality contained in the standards.

For the first time in a single normative act, the most important duties of the USSR ministries (departments) and the Councils of Ministers of the union republics are summarized and determined. Their responsibility for the organization and the state of work on standardization is also specified.

In order to: 1) ensure the state's overall interests in the development of high-quality products and the timely implementation and strict observance of standards and specifications and 2) strengthen their role in raising product quality, the decree provides that products produced and sold in the USSR must meet the standards and specifications.

The development, manufacture, delivery (sale), storage, transport, use, repair or any other activity involving products which violate standards and specifications are forbidden. The managers of enterprises, organizations and institutions and the principle and main designers are personally responsible for: 1) the scientific and technical advancement and technico-economic validity of the standards and specifications being developed; 2) their products having indicators which meet the highest achievements of domestic and foreign science, engineering and leading experience; 3) the design, technological and project documentation meeting the requirements of standards and specifications and 4) ensuring their products are optimally standardized.

Officials who permit violations of standards and specifications will be held responsible in accordance with existing legislation.

In conjunction with the adoption of the decree, previous decisions of the USSR Council of Ministers on problems of organizing standardization work in the USSR have been abolished, since the norms contained in them have been reflected in the new decree. Changes and additions which were contained in the decisions of the Government with regard to the present decree were also approved.

The decree of the USSR Council of Ministers "On Ensuring Unity of Measurements in the Country" of 4 April 1983 fulfills a similar role in legally guaranteeing the unity of measurements in the country.

This decision of the USSR Government has, for the first time, comprehensively determined: 1) the organizational principles of work to ensure unity of measurements; 2) the competence of Gosstandart [State Committee for Standards] and other administrative bodies in this area; 3) the procedure for naming the leading and base organizations of the metrological service; 4) the building of a state metrological service and metrological services of ministries and departments and 5) the requirements for state and department verification, state testing and metrological certification of the means of measurement.

In conjunction with the promulgation of the USSR Council of Ministers decree, many outdated decisions were declared invalid, including: the decree of the Central Executive Committee and the USSR Sovnarkom "On Measures and Weights"[7] of 9 September 1934; the decrees of the USSR Sovnarkom "On Special State Inspectors of Measurement Devices"[8] of 15 January 1935, "On Measurement Devices Subject to Required Testing and Verification by the Committee on Matters of Weights and Measurement Devices of the USSR Sovnarkom"[9] of 14 January 1941, "On Measures and Control-Measurement Devices Subject to Required State Verification and Sealing"[10] and a number of others.

In essence, the decree of the USSR Council of Ministers "On Ensuring Unity of Measurements in the Country" has presently become the only normative act which is specially and fully dedicated to the organizational bases of metrology in the USSR.

In contrast to the two above-named USSR Government decrees, the main function of which is to regulate the organization of relationships in the development, approval, implementation and observance of standards and to regulate work on ensuring unity of measurements, the other normative acts adopted during the promulgation of the USSR Code of Laws are aimed at ensuring that organizational decisions are realized in the development, approval and implementation of standards and ensuring that metrology is guaranteed for the national economy.

The function of the decree of the USSR Council of Ministers "On State Supervision of Standards and Means of Measurement in the USSR" of 28 September 1983 is to protect the organizational bases of standardization and metrology in the country. This is determined by the place of this normative act in the system of legislation on standardization and its link with other normative acts.

This decree of the USSR Government for the first time provided for the legal registration, on the level of the USSR Council of Ministers, of societal relations in the area of monitoring and supervising standards and means of measurement.

It had been established earlier that Gosstandart should exercise state supervision over the implementation and observance of standards and

specifications, according to an established procedure. In addition, the ministries and departments monitor the state of standardization in the departmental organizations. These two supervisory systems in the county were not fully supported by legislation. The decisions of the directive bodies only strengthened the right of Gosstandart to: 1) selectively check the quality of raw material, materials, components and finished items at various organizations; 2) call in, with the permission of the appropriate managers, the following for product-quality inspection: representatives of manufacturing ministries, manufacturing departments and product consumers; specialists and the technical means of enterprises, organizations, quality inspection agencies and technical control bodies[11, 12]. Gosstandart also had several other supervisory rights. The ministries and departments themselves were required to exercise systematic monitoring of observance of industrial standards.[13] Separate norms for supervising the implementation and observance of standards and specifications were included in the "State Standardization System."[14]

This legislative situation could hardly have been called satisfactory. By carrying out state supervision, the Gosstandart bodies directly affect the interests of enterprises, institutions and organizations which are not part of the Gosstandart system. Therefore, one of the most important guarantees that the priciple of socialist law, consolidated by the USSR Constitution, will be observed is the concise regulation of the supervisory process. The resolution of these problems by Gosstandart is less preferable. The protection of the rights of organizations monitored by supervisory bodies requires the determination of the bodies themselves and the sphere of officials, and their rights and duties. In addition, the procedure for departmental monitoring can be determined by the appropriate ministries and departments.

When the USSR Government approved the decree "Statute on State Supervision Over Standards and Means of Measurement in the USSR" of 28 September 1983, it provided a high degree of centralization in solving supervisory problems. This has largely eliminated the shortcomings noted in this area.

The approved Statute establishes that the main tasks of state supervision over standards are: 1) to ensure that ministries, departments, enterprises, organizations and institutions implement standards and metrological rules in a timely manner and strictly observe them; 2) to ensure unity of measurements in the country; 3) to analyze the scientific and technical advancement of standards and means of measurement and 4) to promote the efficient use of scientific and engineering achievements in the development of standards and means of measurement, in order to increase the efficiency of public production, accelerate scientific-technical progress, improve labor productivity, make products more technically advanced and raise product quality. The realization of these tasks is incumbent on the USSR State Committee for Standards and its: 1) subordinate republic administrations in the union republics, 2) standardization and metrology centers, 3) laboratories of state supervision over standards and

measurement equipment in the autonomous republics, krays, oblasts and cities. Bodies of the USSR Ministry of Health are responsible for state supervision over whether medicines meet the requirements of the USSR State Pharmacopoeia (having the status of USSR State Standards) or specifications.

Thus, the legislation determines the exclusiveness of the competence of Gosstandart and USSR Ministry of Health bodies in the area of standards supervision, using the specific character of the supervised objects as the criterion. This means that it is illegal for either of them to supervise objects monitored by the other. Gosstandart and its bodies do not monitor the observance of normative-technical documentation for medicines, since that is the prerogative of bodies of the USSR Ministry of Health and is the limit of their competence.

The interrelationship between the supervisory bodies of Gosstandart and USSR Gosstroy [State Committee for Construction Affairs] is structured differently. In the Statute on State Supervision of Standards and Means of Measurement, approved by the USSR Council of Ministers, the bodies of USSR Gosstroy are not designated to exercise this supervision. However, in the decree which approves this Statute, USSR Gosstroy is directed to strengthen its monitoring of state standards approved by it at enterprises, organizations and institutions, regardless of their affiliation. A similar function is contained in the Statute on the USSR State Committee for Construction Affairs.[15] Thus, this management body is given the effective status of a state supervisory body over standards.

In addition, the Statute on State Supervision over Standards and Means of Measurement in the USSR solves a number of basic problems concerning the system of supervisory bodies, their structure, competence and operating principles.

When supervisory bodies discover violations in the area of standardization and metrology, the natural result is responsibility for these violations. The normative acts establishing this responsibility form an important element in the system of legislation on standardization and metrology. The social significance of this group of acts is that it guarantees sound norms for existing legislation on standardization and metrology.

The institution of responsibility is developed along two directions:

a) establishing the responsibility of workers and employees for violations of standards and other standardization rules and

b) introducing the responsibility of juridical persons in whose sphere of activity violations of standards have been permitted.

The first direction was developed in the norms of criminal, administrative and labor law.

The second direction is realized in the norms of civil law, as well as through the disadvantageous property consequences, established by the USSR Council of Ministers, for enterprises and organizations in whose production spheres the standards violations occur. This type of responsibility is referred to in legislation as economic sanctions.

During the preparation of the USSR Code of Laws, no improvement in legislation on responsibility was provided. However, the development of normative acts on the organizational bases of standardization and metrology and on government supervision over standards made it necessary to augment sanctions for reported violations. This task was fulfilled during the preparation and adoption of two acts on responsibility.

The first of these--the Ukaze of the Presidium of the USSR Supreme Soviet "On the Administrative Responsibility for Violations of Rules on Standardization and Quality of Products and Goods Put Into Circulation and on Content of Means of Measurement and Their Use" of 18 May 1984 significantly increased the personal responsibility of officials for observing standards and metrological rules and for ensuring a unified system of measurements in the country.

The ukaze, prepared in accordance with the Basic Legislation of the USSR and Union Republics on Administrative Law Violations[16], establishes officials' responsibility in the form of warnings or fines of up to 100 rubles. Under modern conditions, this is a necessary measure to augment the existing legislation on responsibility for these violations. It should be remembered that there had been no responsibility of any kind for ensuring unity of measurements; this was one reason for the multitude of violations.

The ukaze stipulates the responsibility of officials of industrial, agricultural, transport, trade, procurement and other enterprises and organizations, including kolkhoz officials. The lists of law violations for which responsibility must be taken were based on the necessity of establishing responsibility at all levels of the formation and guarantee of product quality and unity of measurements.

The second normative act was the Statute on the Procedure for Applying Economic Sanctions for Violations of Standards and Specifications, which was approved by the State Committeee for Science and Technology, the USSR Finance Ministry, the USSR Central Statistical Administration, the USSR State Committee for Standards and the USSR State Committee for Prices on 12 July 1983.

This decree was developed and approved in elaboration of the following decrees of the CPSU Central Committee and the USSR Council of Ministers: "On Elevating the Role of Standards in Improving Product Quality"[11] of 10 November 1970 and "On Strengthening the Effort to Economize and Efficiently Use Raw-Material, Fuel-Energy and Other Material Resources"[17]

of 30 June 1981. This decree provides for the responsibility of economic organizations in general.

This responsibility consists of two independent elements:

a) deductions from the budget of profits obtained from sales of products manufactured with deviations from standards and specifications or obtained from other forms of activity involving violations of standards and

b) changes in statistical accounts; i.e., removal from enterprise and organization accounting data on plan fulfillment of that part of the volume of product sales, or of the volume of work done and profits, equal to the sum transferred into the budget.

It became necessary to improve the legal regulation of economic sanctions because of their complex structure, which affects both the application mechanism and the monitoring of their realization. Both the violator and several management bodies are involved with the application of these sanctions. Therefore, the fullness and conciseness of the legal resolution of problems arising in this area have a direct effect on the effectiveness of sanctions. The solution to this problem became the main goal of the approved Statute on the Procedure for Applying Economic Sanctions.

The development and confirmation, in the course of improving the standardization legislation, of normative acts on responsibility of both economic organizations in general and their officials for violations of standardization and metrology legislation became a solid barrier against law violations. Solving the overall task, these acts, together with other acts on responsibility in the area of standardization and metrology, foster the suppression and prevention of violations and the punishment and education of the guilty.

Thus, for the first time, a concise system of legislation on standardization and metrology in the USSR has been created in the body of Soviet law. This ensures great stability of and accessibility to this legislation.

The attention given during the preparation of the Code of Laws to improving the standardization and metrology legislation was due to the special role of standardization and metrology in the mechanism of product-quality management.

The legal regulation of standardization and metrology as forms of state management plays a most important role relative to technico-economic policy in this area. V. I. Lenin saw the essence of this interaction, in that economic policy must be "strengthened legislatively to the greatest possible degree to eliminate any possibility of deviation from it."[18]

FOOTNOTES

1. SP SSSR [USSR Collection of Statutes], No 21, Article 104, 1976.

2. SP SSSR, No 9, Article 60, 1978.

3. SP SSSR, No 4, Article 18, 1985.

4. SP SSSR, No 10, Article 50, 1983.

5. SP SSSR, No 28, Article 157, 1983.

6. VEDOMOSTI VERKHOVNOGO SOVETA SSSR, No 21, Article 368, 1984.

7. SZ SSSR [USSR Collection of Laws], No 45, Article 352, 1934.

8. SZ SSSR, No 6, Article 47, 1935.

9. SP SSSR, No 4, Article 59, 1941.

10. SP SSSR, No 10, Article 161, 1942.

11. "On Increasing the Role of Standards in the Improvement of Product Quality," SP SSSR, No 20, Article 154, 1970.

12. "Regulations for Gosstandart," SP SSSR, No 21, Article 117, 1973.

13. "On Improving Standardization Work in the Country. The Statute of the USSR Council of Ministers of 11 January 1965," SP SSSR, No 2, Article 11, 1965.

14. GOST [All-Union State Standard] 1.0--68, Section 8.

15. SP SSSR, No 22, Article 119, 1984.

16. VEDOMOSTI VERKHOVNOGO SOVETA SSSR, No 44, Article 909, 1980.

17. SP SSSR, No 20 (Statement), 1981.

18. V. I. Lenin, "Polnoye Sobraniye Sochineniy" [Complete Works], Vol 45, p 244.

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INVESTMENT, PRICES, BUDGET AND FINANCE

ECONOMIST ANALYZES STRUCTURE, DIRECTION OF INVESTMENT

Moscow EKONOMICHESKAYA GAZETA in Russian No 14, Apr 84 p 10

[Article by Doctor of Economic Sciences V. Kushlin under the rubric "Economic Mechanism of Intensification": "Renovation of Production"]

[Text] Problems of the qualitative renovation of production based on the high-efficiency achievements of scientific and technological progress undoubtedly occupy a key place in solving the tasks which confront the country's economy in changing to a primarily intensive path of development. One of the main, and currently hard-to-solve, problems here is how to directly connect investment processes with an increase in the scientific and technological level of production.

The Structure of Investment

An increase in the cost of facilities brought on-line, in a number of cases amounting to 5-8 percent a year, has been observed recently. Of course, many objective factors cause these cost increases, such as the increasingly complex conditions under which many natural resources are extracted, the economic assimilation of the eastern and northern regions of the country, and the diversion of a growing part of capital investments to resolve ecological problems and improve working conditions. But it would be incorrect to conclude from this that an increase in the capital-intensiveness of the introduction of facilities is an unavoidable and, moreover, a natural process.

Studies show that the insufficient utilization of reserves of scientific and technological progress and the extensive character of renovation of the productive apparatus in many branches are major influences on the growth of capital intensiveness.

To overcome extensive tendencies, much depends on the elimination of several outmoded approaches to investment policy, which still cause the distribution of means by the principle "from the achieved level." A more resolute introduction of fundamentally new systems of machines and techniques and high-efficiency scientific and technological programs is necessary.

Of enormous significance is reducing the share of new production construction to justified dimensions and changing, in practice, to the technological

renovation and reconstruction of facilities mainly by increasing the productivity of the basic funds.

Data on the productive structure of capital investments show that the share of state capital investments directed to the technological renovation and reconstruction of operating enterprises is constantly increasing (see table).

The Reproduction Structure of State Capital Investment in Projects with a Productive Purpose (percent)

Year	1980	1981	1982	1983
All Capital Investment	100%	100%	100%	100%
Including				
For the Technological Renovation and Reconstruction of Operating Enterprises	32.4	32.9	34.2	34.8
For the Expansion of Existing Enterprises	27.5	26.6	25.4	25.2
For New Construction	35.8	36.3	36.5	36.3

But today the increase in the share of capital investment for the technological renovation of production must be substantially speeded up. In the course of the economic experiment in industry forms are being worked out which stir the interest of the enterprises and organizations in the priority realization of technological renovation and which create material conditions beneficial for it. The associations' and enterprises' freedom to utilize production-development funds is being consistently expanded; credit and other sources for effective technological renovation are being obtained.

The predominance of expenditure on technological renovation and reconstruction in the structure of capital investment still does not mean that the transition to an intensive type of expanded reproduction is being made automatically, of course. In the process of technological reconstruction progressive technical solutions are still not always effected.

One of the current problems is the introduction into the practice of planning a system for evaluating capital-construction plans not only from the standpoint of the volume of capital, the facilities brought on-line, the recoupment period, and the forms of expanded reproduction of funds, but also of the realization in the funds and facilities of the newest, most highly efficient scientific and technological achievements. Much also depends on the rational organization of operations for the technological renovation of production. Let us examine these questions in more detail.

On a Technologically-Advanced Basis

Normally, the dynamics of renovation of basic funds are to be judged by indicators of their input and retirement.

On an average for industry, during the year 1983 7 percent of the funds existing at the end of the year were renovated. In the Ministry of Livestock Machinery, for instance, 14 percent were renovated; in the Ministry of Agricultural Machinery, 8.7 percent; in the Ministry of the Chemical Industry, 8.2 percent; in the Ministry of the Electrical Equipment Industry, 8 percent.

The problem is not only that the renovation of the production apparatus must be further speeded up but that the extensive character of renovation must be overcome in order to eliminate the gap between the inordinately large input of new basic funds and the small retirement of obsolete ones.

Of course, if the equipment and facilities which are going to replace the obsolete ones are not substantially different from them, and do not embody the most progressive solutions, then the expanded scale of renovation of the production apparatus cannot by itself solve the tasks of intensification.

In accordance with the 1984 CPSU Central Committee and USSR Council of Ministers decree "On improving the planning, organization and management of capital construction," the USSR Gosplan, the ministries and departments, and the Councils of Ministers of the union republics are called on to assure the direction of capital investments first of all to measures connected with the introduction in the economy of the newest scientific and technological achievements, to the technological renovation and reconstruction of operating enterprises, to the complex development of raw materials and processing branches, and to the liquidation of interbranch and intrabranch disproportions.

Amplifying this demand, the government decree on questions of improving design and project-estimation, expert appraisals and architectural supervision in construction forbids the use in designs of technical processes and equipment which do not answer to the newest achievements of science and technology.

Now, clearly, it is very important to arrange an operating mechanism for precise agreement of the process of development of science and technology, on the one hand, and the process of renovation of the production apparatus on the other. First of all it is necessary to strengthen the interaction of the organizations which plan and organize these two processes.

Methods of Evaluation

Economic organizations frequently do not have precise and systematic information about the extent to which the capital investments they utilize embody progressive achievements of science and technology. In our view, the use of two strengthened indicators which characterize investment activity within the framework of a branch, a sub-branch, and a region, would help to overcome this deficiency. Thus, it is expedient to determine the coefficient (relationship) showing what part of the overall production capital investment embodies the achievements of science and technology in production facilities which, as a result, substantially gain in technological level and efficiency over operating ones.

A second indicator could reflect the technological-economic level of projects being built and rebuilt. This can be done by determining the relationship

of their most important operating parameters after the introduction of a facility (productivity, economy) and the corresponding parameters before the beginning of operations.

Such indicators, in substance, would represent in themselves two main factors of intensification of renovation of the production apparatus. The first indicator would represent a measure of the distribution of new means of labor in the economy, which depends, strictly, on investment policy. The second would characterize a measure of the progressiveness of new systems of means of labor, which depend first of all on the sphere of scientific investigations and developments. Both indicators, obviously, could become important tools for tying the investment process to scientific and technological progress.

In our opinoin it is expedient to include a production project in the plan and to allocate capital investment and construction-and-installation operation limits for it only when productivity and other operating parameters increase, compared to the base level, by two to three times, and not by just 10-15 percent.

Progressive Forms of Reconstruction

Today the problem of fragmentation of capital investment is not only acute in new construction but also in reconstruction and technological renovation. These operations are frequently conducted without basic scientific and technological preparation at enterprises with a weak concentration of forces and means. However, science and practice give examples of a more progressive approach to the organization of oeprations. The so-called block method of staged reconstruction of production deserves attention.

How does it differ from the usual practice of "equal" renewal? First of all, the method precisely plans for reequipping production apparatus by entire technological blocks. The renovation program is tied in with the appropriate enterprises' and associations' long-term development plans. Second the method operates as an integrated system in reconstructing blocks and concentrating resources. Third, it prepares in a timely fashion the building in of scientific and technological developments when reconstructing the successive blocks.

For example, the experience of consecutive reconstruction of production with minimal capital investments at the First Urals New-casing Plant is interesting, for instance. Strict sequencing of operations and concentration of resources characterize the planned reconstruction being effected at the ZiL and some other Moscow plants.

The practice of concentrating reconstruction on entire blocks also has the advantage that production organization and its management is also redone together with technological and technical reconstruction. All the requirements for a more rapid yield from the basic funds input are met.

It stands to reason that today machine builders face more severe requirements for the reduction of individual expenditures, weights and volumes of

equipment output. But under existing conditions it is also possible to achieve high yields from renovation if it is systematically realized.

An obvious example of this is the renovation of production at the Dnepropetrovsk combine works imeni Voroshilov which is based on certification of work stations and areas. Although in recent years the shops have gotten quite a lot of long-lived capital equipment, it is recouping itself rather quickly and the return on investment at the enterprise is growing steadily.

In this way, the process of intensification of renovation of the production apparatus depends on many factors. The role of the scale of the change in technical machine building from the output of individual machines to the creation and delivery in entire sets of high-efficiency systems of machines is very great. New possibilities for the flexible concentration of renovation of production apparatus are opened up by the utilization of modular equipment structures.

The unification on such principles of the process of investment in the renovation of basic funds with scientific and technological development will permit the more rapid and more effective solution of the task of qualitatively transforming the productive forces which the party has set.

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INVESTMENT, PRICES, BUDGET AND FINANCE

FINANCIAL ASPECTS OF ECONOMIC EXPERIMENT EXAMINED

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[Article by L. Ye. Babashkin, USSR deputy minister of finance: "The Financial Aspect of the Economic Experiment in Industry"; passages enclosed in slantlines printed in boldface]

[Text] The Communist Party of the Soviet Union has always assigned great importance to issues involving increased efficiency and maximum intensification of production. As noted at the March (1985) Plenum of the CPSU Central Committee, it is necessary to continue working persistently to perfect the economic mechanism and the management system. This is the purpose of a set of coordinated measures to improve planning, management of scientific and technical progress, and the formation of wages and incentive funds that are now undergoing practical testing.

The testing of a new model for managing the finances of associations and enterprises is one of the important elements in this system of measures. Of course, one cannot claim that the problem of increasing efficiency can be resolved using financial levers alone. This requires the simultaneous, directed joint influence of all the elements of the economic mechanism on production: planning, prices, wages, incentives and penalties, finances and credits. But at the same time, one must not underestimate the role of financial instruments from the standpoint of their influence on the final result of cost accounting operations, and on the creation of economic interest and responsibility among associations and enterprises with regard to improving production and increasing production efficiency.

These considerations formed the foundation for the financial management model in the economic experiment. Four main goals were set in working out the model.

/The first goal/ was to create economic conditions that would provide an incentive for enterprises to increase monetary savings--or profit--as the final financial result of production and economic activity. Profit is a very large economic category. Its size depends on the volume of production, on product quality, and on the dynamics of reducing production costs. For this reason, an increase in profit is evidence not only of an increase in the scale of production, but also of an increase in production efficiency.

The task of strengthening incentives for enterprises to increase profits was focused in several different directions. One of these was to switch to budget payments in the form of calculated profit withholding tax on the basis of stable norms set down in annual plans. The levels of the norms for individual enterprises were determined by ministries on the basis of the planned profits and total outlays needed to finance planned measures, form economic incentive funds, and make payments to higher organizations.

This approach provided maximum consideration of the specific operating conditions at each enterprise, since the planned volume of monetary savings and expenditures was taken into account. In 1984 the following norms were set among various ministries: in the Ministry of the Electrical Equipment Industry, 10.4 percent; in the Ministry of Heavy and Transport Machine Building, 16.01 percent; and in the Lithuanian SSR Ministry of Local Industry, 16.2 percent.

There was also a sharp increase in the incentives for enterprises to raise profits. If the norm for budget payments was set at 10.4 percent in the Ministry of the Electrical Equipment Industry in 1984, then for every ruble of additional estimated profit, 10 kopecks should be paid into the budget, and almost 90 kopecks remain at the enterprise's disposal. This means that enterprises in the sector will be more successful in meeting the goal of improving production and they will obtain additional resources for increasing the economic incentive funds.

In the Ukrainian SSR Ministry of the Food Industry and the Belorussian SSR Ministry of Light Industry a different approach was taken to the problem of increasing profits. Because of the particular nature of production in these sectors, the norms for payments into the budget were set at a lower level than in machine building--60.5 percent in the food industry and 81.3 percent in light industry. Therefore, in order to provide incentives for collectives to increase profits, additional deductions for the economic incentive funds were made dependent on profits increases, which provided an additional incentive to find reserves for increasing monetary savings.

The results from 1984 demonstrated that these measures were very effective. All five ministries that participated in the experiment not only fulfilled, but surpassed the profit plan. Fulfillment of the profit plan by the various ministries was as follows:

	Percent
Ministry of Heavy and Transport Machine Building	108.3
Ministry of the Electrical Equipment Industry	111.4
BSSR Ministry of Light Industry	106.7
UkSSR Ministry of the Food Industry	109.4
LiSSR Ministry of Local Industry	109.7

Above-plan profits totalled 397 million rubles, 230 million of which remained at the disposal of associations and enterprises. This represented practical implementation of the principle formulated in the decree issued by the CPSU Central Committee and the USSR Council of Ministers on 14 July 1983, which

stated that more of the profits should remain at the disposal of collectives of production associations that have achieved high final results.

One must also point out that under the ministries participating in the experiment there is still a large proportion of enterprises that did not meet profit quotas. For example, 10.3 percent of the enterprises under the Ministry of Heavy and Transport Machine Building did not meet these quotas, this was true of 12.2 percent under the Ministry of the Electrical Equipment Industry, 1.8 percent under the UkSSR Ministry of the Food Industry, and 3 percent under the BSSR Ministry of Light Industry. This is evidence of significant unutilized reserves for increasing monetary savings.

It is also important to note that the fulfillment of profit quotas, without taking into account incentive surcharges on basic prices, is at an even lower level. For example, in the Ministry of Heavy and Transport Machine Building this indicator was 97.6 percent. In connection with this, consideration should be given to the idea of switching to profit planning that would include surcharges on wholesale prices for new highly efficient products and products with the emblem of quality. In our opinion, this would increase the responsibility of enterprises for the fulfillment of these quotas.

/The second goal/ that had to be met was to create economic incentives that would promote more rational utilization of production capital and that would hinder the formation of stocks of commodities and physical assets that exceeded the norm and were not covered by bank credit. Norms for budget payments for the majority of enterprises were set as a percentage not of total profit, but of calculated profit, which objectively created a desire to fulfill quotas with producer goods at a relatively lower cost. The idea in this case was that the payment for the producer goods would decrease, and estimated profits would increase accordingly, with a simultaneous increase in the total profit remaining at the enterprise's disposal. And on the contrary, if the amount of producer goods increases, this will lead to an increase in the payment for the producer goods, and a decrease in the calculated profit and the part of that profit that remains at the enterprise's disposal.

Considering the special importance of this goal--preventing the formation of above-norm commodity stocks and physical assets not covered by bank credit, and above-plan balances of uninstalled equipment--another measure was called for in the experiment. This consisted of the requirement that enterprises pay an additional 3 percent above the established payment for this portion of producer goods. This payment came from the profit left to the enterprises and was made to the ministries, which in turn could use it at their discretion.

The measures that were taken had definite results. In all the ministries participating in the experiment there was a decline in the above-norm commodity stocks and physical assets not covered by bank credit.

Still, there are some major reserves for improving the utilization of working capital. In the machine building ministries participating in the experiment the level of above-norm stocks is still high. As of 1 January 1985 in the Ministry of Heavy and Transport Machine Building these stocks totalled 86.2 milion rubles, as opposed to 96 million rubles on the same date in 1984, and in

the Ministry of the Electrical Equipment Industry these figures were 213.1 million and 228.7 million rubles, respectively.

The search for ways to hinder unjustified increases in stocks must be continued. A definite step has already been taken in this direction. An analysis showed that ministries have not always exercised their right to introduce additional payments for assets at enterprises under their jurisdiction. Therefore, starting in 1985 the conditions of the experiment call for payments to be made directly into the budget. There is no question that this will have an automatic effect and there will be no "amnesty" for enterprises that have allowed withdrawal of their stocks from circulation.

Another step that should encourage more rational utilization of producer goods in light industry is the plan, starting in 1985, to make increases in the base economic incentive funds dependent on increases in calculated profit, and not balance profit, as was the case in 1984.

In the future there should be a closer tie between the dynamics of stocks and the size of the economic incentive fund. For example, the following arrangement could work: if the sum of the stocks grows faster than the volume of production, then the base economic incentive fund should be reduced.

/The third goal/ that was met in the experiment was to provide associations and enterprises with stable, normal conditions for economic activity. This task was carried out by means of several methods. One of these was to switch to budget payments based on stable norms. Use of these norms meant that after standard budget deductions from the calculated profit were made and after the deduction of payments for use by higher organizations, an enterprise would have the remaining profit at its disposal. This put an end to efforts by ministries to divert profits during the course of plan fulfillment from enterprises operating successfully to cover losses or expenditures at enterprises with inadequate profits, which corresponds entirely to the policy of expanding enterprises' rights.

Another method used to meet this goal was to expand the possibilities of enterprises in financing operations to develop new technology. In the past all the work in this area was carried out on instructions from ministries and received centralized financing (from the unified fund to develop science and technology), but the situation in the experiment was different. Ministries were obliged to place part of the unified fund to develop science and technology at the disposal of the enterprises, and they could spend these funds on planning and design work at their own initiative. In 1984 the Ministry of Heavy and Transport Machine Building and the Ministry of the Electrical Equipment Industry stipulated that 5 percent of the total planned deductions for the unified fund to develop science and technology be used for these purposes, along with 50 percent of the deductions for the formation of the fund from the sum of incentive surcharges, in addition to all receipts from the sale to consumers of test models (or batches) of new technology that had been financed previously through the unified fund to develop science and technology.

Simply leaving part of the unified fund to develop science and technology to enterprises, however, is not a cost accounting measure. Therefore, we should

welcome the initiative of the Ministry of the Electrical Equipment Industry, which in 1985 made a substantial change in the existing system. Enterprises will be left with 10 percent of the savings due to a reduction in costs based on technical factors. This means that a course has been taken that is aimed at having enterprises earn their own funds for carrying out scientific research, testing, and design work.

The next method called for enterprises to be granted greater opportunities for financing work on the technical retooling of production. Under the new conditions it was clearly established that primarily production development funds should be used for these purposes. Now ministries cannot utilize these funds for purposes not tied directly to the development of a given specific enterprise, that is, the right to utilize the development fund belongs exclusively to the enterprises.

The majority of the enterprises took great advantage of this right. It is no coincidence that quotas for noncentralized capital investments were handled better than those for centralized investments. As the table below indicates, a better job was also done of putting fixed capital into operation.

(2)	(1) Процент выполнения плана по:			
	объему капиталовложений		(3) вводу в действие фондов	
	(4) централизованные	(5) нецентрализованные	(4) централизованные	(5) нецентрализованные
Минтяжмаш (6)	79,1	91,5	69,4	88,3
Минэлектротехпром (7)	85,5	87,9	77,8	80,5
Минпищепром УССР (8)	92,0	100,5	63,0	123,0
Минлегпром БССР (9)	97,0	116,0	69,0	110,0
Минместпром Литовской ССР (10)	100,2	99,8	72,0	104,0

Key:

1. Fulfillment (in percent) of the plan for:
2. Capital investments
3. Putting capital into operation
4. Centralized
5. Noncentralized
6. Ministry of Heavy and Transport Machine Building
7. Ministry of the Electrical Equipment Industry
8. UkSSR Ministry of the Food Industry
9. BSSR Ministry of Light Industry
10. LiSSR Ministry of Local Industry

At the same time, it must be noted that questions involving utilization of production development funds require further elaboration. These funds are created at practically all enterprises, but ministries set the quotas for noncentralized capital investments and the quotas for technical retooling for far from all enterprises. As a result, at a number of enterprises the development funds go untouched, since they do not have the opportunity to use these funds. At the same time the ministry does not have the right to

redistribute these funds, and they cannot be mobilized for use in the budget. There are significant funds at stake here. According to the plan for 1985 throughout the Ministry of Heavy and Transport Machine Building these funds total 14 million rubles, and in the Ministry of the Electrical Equipment Industry, 102 million rubles.

Of course, they are not excluded from the national economic turnover--they are kept in bank accounts and are used as credit resources. However, sufficient use is still not being made of enterprises' possibilities for technical retooling. It would probably be worthwhile for ministries to take this into consideration when planning the development of their sector.

There could also be other cases in which the development funds would not be sufficient for enterprises to carry out technical retooling operations. In connection with this, bank institutions were permitted to grant loans for this purpose to enterprises participating in the experiment under the condition that the expenditures would be recovered within 6 years of the date the first loan is made. Experience has shown, however, that as a rule, the enterprises took advantage of this opportunity very rarely.

Enterprises were allowed to use amortization for major repairs for technical retooling purposes, but these outlays are still quite small. In the Ministry of Heavy and Transport Machine Building 6.6 million rubles were earmarked for the acquisition of new equipment from amortization for major repairs, and in the Ministry of the Electrical Equipment Industry this figure was 9.3 million rubles, or 3.9 and 3.7 percent, respectively, of the total amortization designated for major repairs. For example, last year the "Volta" plant in Tallinn earmarked 0.9 million rubles for major equipment repairs and acquired new equipment beyond that called for in the plan using amortization for major repairs valued at only 4800 rubles, or 5.3 percent of the total.

Finally, an important innovation in the experiment is that enterprises are being granted the right to create their own financial reserves usig above-plan profit and part of the surcharges on wholesale prices. This also creates the conditions for strengthening their financial position. Reserves can be formed in amounts up to five percent of the norm for the enterprise's own working capital. In 1984 this right was utilized by enterprises under various ministries in widely different ways.

In principle, this situation for the first year of the experiment can be explained: although the enterprises had resources to create reserves, they preferred in a number of cases to spend them on current needs. There is reason to believe that in 1985 the reserves will be formed by a large number of enterprises.

All this, taken together, created conditions for better organization of financial operations at enterprises for maneuvering resources in the interest of further production development.

	(1)	(2)	(3)	(4)
	Число предприятий, создавших резервы	Сумма резерва, млн. руб.	Резерв, в % к нормативу	Доля использованных средств резерва, %
Минтяжмаш (5)	10	1,6	1,52	47
Минэлектротехпром (6)	118	17,6	0,7	17
Минпищепром УССР(7)	204	11,1	2,88	25
Минлегпром БССР(8)	35	3,6	—	—

Key:

1. Number of enterprises that created reserves
2. Total reserves, in millions of rubles
3. Reserve as percentage of norm
4. Proportion of reserve funds utilized, in percent
5. Ministry of Heavy and Transport Machine Building
6. Ministry of the Electrical Equipment Industry
7. UkSSR Ministry of the Food Industry
8. BeSSR Ministry of Light Industry

/The fourth goal/ that was to be met in the experiment was to increase the responsibility of production associations and enterprises for fulfillment of the profit plan and budget obligations. With this aim, a principle was put into practice according to which every enterprise dealt with the budget independently, that is, in a decentralized manner. This eliminated situations in which ministries compensated for the poor operation of some enterprises at the expense of others by covering profit shortfalls through centralized payments into the budget. This is a very rigorous requirement, especially for machine building enterprises, which were supposed to make budget payments in the planned amounts when up to 2 percent of the profit plan went unfulfilled.

The reporting data indicate that in 1984 the majority of enterprises not only successfully met their budget obligations, but even exceeded them. Throughout the Ministry of Heavy and Transport Machine Building the budget payment plan was met by 103.3 percent, in the Ministry of the Electrical Equipment Industry this figure was 110.8 percent, in the UkSSR Ministry of the Food Industry, it was 114.1 percent, in the BSSR Ministry of Light Industry, 107.2 percent, and the LiSSR Ministry of Local Industry, 107.7 percent.

Thus, all the fundamental ideas to improve financial management that were included in the experiment were carried out on the whole. But does this mean that all the problems were solved? Of course not. Consider, for example, the problem of distribution of profit. An analysis showed that the ministries set norms for profit withholding tax for only some of the enterprises. For example, 14 percent of the enterprises under the Ministry of Heavy and Transport Machine Building did not make standardized profit withholding payments into the budget, and this was true of 17 percent of the enterprises under the Ministry of the Electrical Equipment Industry. Thus, a large number of enterprises were not affected by this element of the financial mechanism, which is not a satisfactory situation. Every profitable enterprise should participate in the formation of budget revenues.

There were some difficulties in maintaining the stability of the norms that were set. These difficulties were due primarily to frequent changes in indicators of quotas that had been established earlier. For example, the norm originally assigned the "Kuzbasselektromotor" [Kuznetsk Basin Electric Motor] Production Association for budget deductions from calculated profit was 14.5 percent. During the course of the year, in connection with a decrease in the profit plan, the norm was revised four times and in the end had been increased to 26.6 percent. There were instances of changes in norms in other ministries as well, and far from all of them can be described as unjustified. It is clear that stability of norms for profit withholding tax can be ensured only when there are no changes in management conditions, especially in those aspects that are determined by the plan. However, it is not always possible to meet this requirement in practice.

In this connection some special attention should be given to proposals to switch in the future to establishing budget payment norms for a five-year period. We will discuss this issue in more detail.

One often hears that the norm-setting method for distribution of profit in its current form "does not work," and the norms for budget deductions that are now based on annual plans have still not become planning instruments. Some economists believe that it would make sense to set payment norms for enterprises even before the plan has been drawn up, and these norms would be established for five years, since they would provide a long-range orientation in the organization of financial operations.

This question has been discussed a number of times among financial experts in many sectors. They all believe, with good reason, that under conditions of changing plans for production, capital investments, price levels, and purchases of agricultural products and raw materials, stable norms cannot have a real effect.

Indeed, how is it possible ahead of time, before the five-year plan has even been drawn up, to determine the portion of the profit that the ministry should withhold for budget payments, when neither the size of the profit nor the amount of the costs is known. Even if these norms are set on the basis of proportions established earlier, they will reflect yesterday's levels, not today's, and especially not tomorrow's. In some years of the five-year plan a sector will inevitably have a shortage of financial resources, and in other years there will be a surplus. This is completely understandable since the annual ratios between profit and costs vary from year to year.

This also results in large fluctuations in the size of payments into the budget. Here are some examples of this. In 1978 the Ministry of Machine Building for Light and Food Industry and Household Appliances paid in 48 percent of its profits, and in 1983, 24 percent; the Ministry of the Electrical Equipment Industry reduced the proportion of its payments from 24 percent in 1978 to 10 percent in 1983, and in 1985 raised it again to 23 percent. In 1978 the Ministry of Machine Building for Animal Husbandry and Fodder Production paid 50 percent of its profits into the budget, and in 1982, only 5 percent. This problem is even more complicated when a single enterprise is involved.

It makes more sense to take a different approach to increasing the role of standardized distribution of profits. Sectors and enterprises need five-year norms, not annual norms. These norms should not be set prior to the compilation of the five-year plan, but should instead be based on the parameters of the five-year plan. In this situation there will be at least an approximate coordination between norms and planned profits and the financing of planned costs.

But even this situation does not exclude the possibility that in some year of the five-year plan the previously established norms will not come into conflict with the actual management conditions, since the annual plans sometimes differ considerably from the five-year plans. This applies especially to the size of capital investments, which is confirmed by the practical experience in several ministries in which the norm-setting method was used back in the 10th Five-Year Plan.

Even this complication can be taken into consideration. V. S. Pavlov, doctor of economic sciences, has put forward a very interesting proposal. He believes that only that profit needed for the "current" activities of enterprises should be left at the enterprises' disposal, that is, for increasing working capital, forming development funds for technical retooling, creating incentive funds, and financing social and cultural measures. As preliminary estimates show, this proportion of the profit is almost stable for each individual enterprise. At the same time the proportion of the profit that enterprises should deduct for use by higher organs in the sectorial administration for the formation of various centralized funds and reserves can be fixed ahead of time. As far as the remainder of the profit is concerned, it should be paid into the budget, including that part of the profit that was previously left to the enterprises to finance capital investments based on centralized decisions.

This approach makes it possible to create a practical basis for proper determination of the norm level and for maintaining a stable level over the course of the five-year plan, and for reducing the difference in the levels of profit withholding tax norms set for various enterprises. This is explained primarily by the fact that under this system the most mobile element of costs--outlays for centralized capital investments--will no longer be based on the enterprises' funds, but on centralized sources, primarily budget allocations.

There is another additional opportunity for stabilizing the level of budget deduction norms that does not come into conflict with the system described above. It consists of setting budget withholding norms for enterprises that are not based on the entire profit (calculated profit), but on the profit increase. In this case the enterprise receives a guarantee that it will have at its disposal for carrying out current operations at least the same proportion of the profit that it had in the previous year, and the enterprise in turn guarantees that its payments into the budget will be no less than in the previous year. As far as an increase in profit is concerned, it can be distributed between the enterprise, higher sectorial administrative organs, and the budget on the basis of established norms. These norms can be set before the beginning of the five-year plan, without differentiation between the various years of the five-year plan.

In this way the enterprise retains the financial base it had already achieved for covering current operating costs, which in itself creates favorable conditions for the enterprise's normal operations. If there is an increase in profit, this base also increases in accordance with the established norm, and this increase is wholly dependent on the quality of the enterprise's operations. This system also includes stronger guarantees for the budget: in any case it will receive at least the same amount that it received in the previous year. Of course, it is most acceptable when there is a steady increase in the proportion of the budget payments in the profit increase.

Introduction of this profit distribution model requires proper preparations and preliminary testing. In this connection it will be very useful to study the experience gained in the application of long-range norms for budget deductions that is being tested starting in 1985. There is an experiment being conducted within the Estonian SSR Ministry of Light Industry in accordance with which stable calculated profit withholding tax norms have been set for 1985-1987: 29 percent of planned profit and 50 percent of above-plan profit. Also of interest are the experiments beginning in 1985 at the Volga Motor Vehicle Plant Production Association under the Ministry of the Automotive Industry and the Sumy Machine Building Production Association imeni Frunze. A long-term norm for balance sheet profit withholding tax was set for the Volga association (with the planned interest on loans deducted) without differentiation by year, and a norm was set for the Sumy association with a gradual increase from 26 percent in 1985 to 31 percent in 1990.

When considering the problem of norms for profit withholding tax, one cannot overlook the question of unification of these norms. In 1984 ministries that were participating in the experiment set norms for enterprises under their jurisdiction on the basis of profit quotas and the size of planned costs. In other words, the norms were extremely individualized. For example, in the Ministry of Heavy and Transport Machine Building for 7 enterprises these norms were set at up to 5 percent, for 17 enterprises they were set between 5 and 10 percent, for 27 they were set at 10 to 20 percent, for 17 at 20 to 30 percent, and 9 enterprises had norms that exceeded 30 percent. There were similar fluctuations in the norms set by the Ministry of the Electrical Equipment Industry and other ministries.

A number of economists believe that these variations created unequal conditions for the enterprises. In their opinion equal demands should be placed on all the enterprises in a given sector and they should be given equal opportunities. On this basis these economists proposed the establishment of unified profit withholding tax norms for all the enterprises (under one ministry).

How realistic is this approach if one takes into account the presence in some sectors of enterprises with totally different levels of profitability and even enterprises operating with planned losses? Unification of norms will lead inevitably to a situation in which some enterprises automatically receive additional funds for their own use (and possibly even funds they don't need), and others will experience serious difficulties financing the development of production. On the surface, the principle of equal demands is quite attractive. In this case, however, one inevitably runs into the problem of

financial support for enterprises which for objective reasons cannot function normally with the framework of unified norms. The proposal that they should be covered by or transferred to operate under the jurisdiction of highly profitable enterprises would mean a departure from the principle that all enterprises are links in the single national economic complex. It is obvious that they cannot be excluded from this complex on the basis of not withstanding the pressure of unified norms.

Taking this into consideration, the most acceptable course for the future is to switch to long-term budget withholding norms that are individualized, that is, that reflect to a maximum extent the actual conditions of production and economic activity.

Another issue that is in need of further consideration is the system used to form incentive funds. Incentives for members of labor collectives for high work indicators is an extremely effective factor in increasing efficiency. Quite a lot has been done in this direction in the experiment, but there are still reserves for improving the system used to form the funds. First of all, in our opinion, there needs to be a stronger correlation between the size of the incentive funds and the actual financial sources used to form the funds.

At enterprises under the machine building ministries participating in the experiment, base economic incentive funds increase as there is a decline in the maximum level of expenditures per ruble of production output, and funds for social and cultural measures and housing construction increase as labor productivity increases. This seems to be a proper orientation, since it encourages the enterprises to increase production efficiency. However, neither the reduction in the maximum level of expenditures nor the increase in labor productivity are tied directly to an increase in the source for the formation of incentive funds--profit.

For example, one can achieve economy by reducing production costs, but not have a corresponding increase in profit. This increase can be lower as a result of significant nonproductive expenses and losses that are not included in production costs. These can include, for example, various fines and penalties. There can also be a decline in profit as a result of discounts on wholesale prices. For example, in the Ministry of the Electrical Equipment Industry in 1983 the savings from reducing production costs over 1982 were 151 million rubles, and profit (not including surcharges) increased by only 130 million rubles, that is, the increase was not as great. As far as individual enterprises are concerned, discrepancies in the dynamics of savings from reducing production costs and the size of profit increases can be even more significant.

Where then do the enterprises that are fulfilling quotas for fund formation indicators, but are not fulfilling the profit plan, find the money to form the incentive funds? Sometimes they create them by reducing working capital, at the expense of financing for expenses. For example, in 1984 the Irkutsk Heavy Machine Building Plant imeni Kuybyshev fell short of the profit plan by 437,000 rubles, but the planned deductions for the economic incentive fund were made and totalled 1,795,000 rubles. As a result, the shortage of working capital at this enterprise at the beginning of 1985 was 845,000 rubles. A heavy machine

building electrosteel plant fulfilled the profit plan by 96.3 percent, with a shortfall of 731,000 rubles. On the basis of the plan for the economic incentive funds, 5 millions rubles were deducted, even though there was a working capital shortage of almost 3 milloin rubles. There are quite a few examples of this nature.

From these examples it is clear that a situation could occur when capital-generating indicators improve, and enterprises have the right to make additional deductions for the incentive funds beyond what is called for in the plan, even though they do not have the actual source to do this--above-plan profit.

A similar situation with additional deductions for the economic incentive fund can occur when all delivery obligations are met--the fund can be increased by 15 percent. What are the sources for these deductions? First and foremost, above-plan profit. However, as a rule, enterprises first spend these funds to finance expenses involved in the development of production. For this reason, there is often not enough above-plan profit to make the full additional deductions for the economic incentive funds. Directives stipulate that in these cases additional deductions are made at the expense of a corresponding decrease in standard budget payments and even payments for the funds. In 1984 enterprises exercised this right extensively. For example, in the Ministry of the Electrical Equipment Industry, out of 14.7 million rubles in total additional deductions based on the fulfillment of delivery obligations, 3.3 million rubles were covered by reducing budget payments, and in the Ministry of Heavy and Transport Machine Building 6.2 million of 7.6 million rubles were covered this way.

How good is this approach, if one considers that budget revenues are being reduced? Funds counted as budget revenues are entered ahead of time in expenditure directions approved by the USSR Supreme Soviet. Leaving some of the monetary savings that should be paid into the budget at the disposal of enterprises creates the potential danger that difficulties will arise in financing statewide economic and social measures.

While there were five ministries participating in the experiment, this system did not cause any special concern. Now there are 25 ministries involved, and there will certainly be more in the future. It is now time to start thinking seriously about what sources should be used for additional incentive fund allowances. In the future the following principle should be adhered to rigorously: in any case, money for the incentive funds should be earned by the enterprises themselves and the funds should be formed using profit that is left at the enterprises' disposal according to established norms.

Some steps have already been taken in this direction. For example, in the food, light, and local industries increases in economic incentive funds depend on increases in the source--profit.

In the experiments being conducted in 1985 at the Volga Motor Vechicle Plant and Sumy Machine Building Production Association imeni M. V. Frunze, a more radical solution has been found: incentive funds are formed using norms based on the size of the profit: at the Volga plant it is based on the total balance

sheet profit, and at the Sumy enterprise, is is based on the profit that remains after the standard payments have been made into the budget. These solutions, especially the latter, are the most acceptable, and not only because in this case the incentive funds have a real source. One must not forget that profit, as already noted, is a comprehensive, synthetic indicator of cost accounting operations. Indeed, it depends on at least four factors: the volume of product sales, product quality, efficient utilization of material and manpower resources and fixed production capital, and on how well the enterprise fulfills its obligations, that is, on the size of the fines, penalties, and other sanctions based on financial results.

Thus, the transition to forming incentive funds on the basis of the size of profit as a financial result of cost accounting activity can help solve the problem of expanding the scale of production and increasing production efficiency.

There are several other issues that need to be resolved. One is that improvements are needed in the methodological basis for introducing new forms and methods of management. An analysis of the directive materials that have been worked out shows that in a number of cases they are not coordinated well enough and they are too wordy. At the same time, these materials sometimes lack instructions regarding very important aspects of production and economic activity. In the future there should be some unification of methodological and instructional materials in order to eliminate the excessive volume of these materials.

In his speech at the April (1985) Plenum of the CPSU Central Committee, comrade M. S. Gorbachev, general secretary of the CPSU Central Committee, pointed out the need "to move ahead more boldly along the path of expanding enterprises' rights and independence." The economic experiment in industry is an important stage in carrying out this task.

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INVESTMENT, PRICES, BUDGET AND FINANCE

PLANNERS PONDER CAPITAL INVESTMENT EFFICIENCY THEORY

Moscow IZVESTIYA AKADEMII NAUK SSSR: SERIYA EKONOMICHESKAYA in Russian No 3, May-Jun 85 pp 62-68

[Article by A.V. Klimenko: "On the Application of the Capital Investment Efficiency Theory in Planning"]

[Text] This article examines the premises of the theory of the efficiency of capital investments and their correspondence to the real processes taking place in our country's economy. Proposals are made on the directions of development in planning the efficiency of using capital investments.

An important task of contemporary planning is converting the economy to an intensive path of development. In this connection it is difficult to overevaluate the significance of the theory of social production efficiency and its important component part -- the theory of capital investment efficiency. The efficiency of the proposed methodical approaches, the orientation of economic thought, and ultimately the quality of the plans and the results of management are determined by the degree of their development.

Capital investments are the most flexible, economically-controllable type of the production resources which to a substantial degree insure economic growth. At the present time capital investments are directed to an ever-increasing degree to replace limited labor resources and increasingly expensive natural resources, which is accompanied by a decline in their efficiency. All this emphasizes the need to create conditions for more rational use of capital investments and, above all, improve the methods of their planning. The resolution of this problem should be carried out in close relationship with the study of existing production relations, economic interests, and the system of ownership, s[illegible]ce only such a comprehensive approach can guarantee the efficiency of the recommendations being proposed.

Soviet economists have worked out the bases of the theory of efficient planning of capital investments: they have interpreted the efficiency norm of capital investments in the socialist economy, proven the need for a comprehensive approach to selecting the variants of capital construction, and taken major steps on the path of introducing the theory in management practice. However, certain theoretically correct propositions applied in an

actual situation contradict economic sense, while recommendations adopted in practice have no theoretical explanation. As T.S. Khachaturov justifiably notes, "Many methods of measuring efficiency have been adequately worked up and are well known from scientific and educational literature and used in practice, though not always effectively" [8].

Contemporary methodologies of planning the efficiency of capital investments differ substantially from one another; this undoubtedly disorients the planners. It would seem that the methodology which more fully reflects the proposition of the theory of capital investment efficiency is also the better one. Nonetheless, there are a number of fundamental, and among them practical, objections to this [2,7]. This compels us to turn once again to examining the fundamental propositions of the theory of efficiency.

The following propositions are axiomatic for the most widespread theory of capital investment efficiency:

-- a uniform criterion of the efficiency of socialist production exists objectively at all levels of the economy;

-- the volume of production resources, among them capital investments, is limited in each given interval of time;

-- free distribution of resources among different variants of their use is possible and fairly extensive interchangeability of resources exists;

-- freezing investments in one of the long-term variants is equivalent to underusing them in an encompassing [zamykayushchiy] variant.

All these propositions are fundamentally important. Thus, the internal unity of the criterion of efficiency makes it possible to view various economic measures from a general, national economic viewpoint. The result of capital investments in this case proves to be qualitatively comparable at all levels of economic activity and in principle can be given a qualitatively uniform evaluation, which undoubtedly makes the methodology of selecting the best variants easier.

The limited nature of economic resources and the existence of a uniform criterion of efficiency makes optimal planning necessary; its task is to select the most efficient variants of investments.

Free redistribution of resources implies the possibility in principle of selecting any of the existing variants of capital investments. This proposition is a condition of the feasibility of an optimal plan and the possibility of determining a clear, distinct differential norm of efficiency for each type of resource.

Comparison of long-term and short-term variants of capital investments is conducted on the basis of identifying the opportunities lost by freezing resources, using the same uniform norm of efficiency.

The validity in principle of the above propositions is beyond doubt. Nonetheless, in certain conditions of economic practice they are not always fulfilled unambiguously and straightforwardly; the correcting influence of actual economic conditions accounts for this.

Under socialism economic units are developed on the basis of public ownership, which creates the objective unity of their essential interests. Nonetheless, in certain cases nonantagonistic contradictions of personal, collective, and national economic interests and criteria may arise against the background of this internal unity. The task of state planning is to reduce these contradictions.

State planning uses projected, report, and plan indicators and norms for this purpose. But even a large number of these indicators does not enable national economic interests to be fully observed through the direct regulation of local activities since actual production activity is more varied and complex. In view of this, the search for such a limited, observable set of indicators -- which would allow the main features of the development of economic units to be monitored and focus attention on those fields where the divergence of state and collective interests is possible -- is completely justified. The indicator of full calculated expenditures is chosen as this control indicator in the current capital investment efficiency theory. The hypothetical qualitative uniformity of the indicator of expenditures simplifies the selection of variants. In order to compare them, it is sufficient to record the effect and relate the variants of construction being analyzed to them, and "the variants of capital investments being compared should be converted to comparable form for all features [10]. Nonetheless, the methodology of relating variants has not been developed conclusively. It is theoretically unclear how to convert variants to comparable form by accompanying and associated effects and to what degree these forms of the effects should be taken into account. The reflection of the social consequences of economic measures is also very complicated. At the same time, however, it is precisely these consequences which become virtually the main ones on the national economic level.

It is a complicated task to insure that the effect is single-valued. In practice it is known a priori that "relating plan variants to the total effect frequently involves complications which are difficult for planning organizations to overcome" [5]. But if neither planning organizations nor clients are completely interested in accurately relating variants, and there are numerous examples of this in economic practice, then it is difficult to demand it from them on a directive basis: control "from above" cannot always be carried out and economic organizations will find opportunities to realize their own local interests.

The same situation occurs in determing the full set of alternatives from which the selection of the best variants is made. All possible alternatives cannot be identified "from above"; they must be generated and proposed "from below." In conditions when enterprises are still not fully interested in conserving resources and conceal their reserves, many of the proposed alternatives may initially not include the variants that are most efficient from the national

economic standpoint. In that case even correctly conducted optimization will not make it possible to formulate a really optimal plan.

The problem of selecting variants of capital investments is closely related to political-economic and practical research on the interaction of national economic and local interests under the given economic mechanism. Identifying the contradictions in interests of various levels of economic activity would make it possible to focus centralized control precisely on them and more fully realize the objectively existing priority of national economic interests.

As is well known, the concept of expenditures in the capital investment efficiency theory includes not only direct but also differential feedback expenditures, which are inseparably linked to the situation of the limited volume of production resources. Other conditions being equal, the greater the volume of capital resources, the larger the number of variants, including less efficient ones, which can be realized and, consequently, the lower the significance of the least efficient encompassing variant, which determines the size of En [possibly efficiency norm]. The methodologies do not always take this obvious fact into account. Many of them establish En for the plan period before main indicators and proportions of the plan are known, that is, independent of the rate and proportions of economic development. Even those methods which propose, though very approximately, to calculate En on the basis of plan indicators still acknowledge the stability of the norm by years of the plan period, while its other form -- the discount coefficient -- is stable even past the plan period, even though it is well known that the volume of resources and the technology of their use do not remain unchanged.

The annual planned volume of capital investments as a rule differs from the indicators of the five-year plan for the corresponding year because of changed economic conditions and operational adjustments.

For example, during the 11th Five-Year Plan, the five-year plan assignments envisioned an increase of 4.0 percent for state capital investments in 1981. The corresponding figures for other years were as follows: a reduction of 0.7 percent in 1982; again an increase in 1983 and 1984 -- 2.2 percent and 1.2 percent, respectively; and again a reduction in 1985 -- of 1.4 percent. But the annual plan assignments for all years envision an increasein state capital investments (in 1981 -- 5.2 percent; in 1982 -- 0.9 percent; in 1983 -- 4.4 percent; in 1984 -- 5.2 percent; and in 1985 -- 5.5 percent [1; 9]).

Of course, the encompassing variant which determines the value of En is not a real limit variant realized in the national economy, but rather an encompassing plan of investments which is ideal and optimal from the standpoint of the goals of the general plan. In this sense the magnitude of En must be more "tied" to the five-year plan being developed than to the adjusted annual plan or to the actual use of capital investments. Capital investments may be distributed in a far from optimal way; but this will only mean additional losses which are recorded in an overstatement of the amounts of full calculated expenditures but does not change the encompassing variant in the optimal plan. At the same time, however, the actual condition of the economy can adjust the actual content of a plan goal and, consequently, the

entire optimal plan. The methodologies should envision a procedure of efficient adjustment of En in case of fundamental changes in economic conditions in the plan period. Otherwise, the efficiency norm may be oriented to achieving goals which are no longer justified.

Studying the law of long-term change of the En, especially when the norm is also used in long-term planning as the discount coefficient, is no less important. In practice in all methodologies the discount norm is taken as stable (equal or slightly lower than the En) although this stability is not theoretically proven.[1] In contrast, financial practice throught the world begins from a decline in the interest rate for long-term transactions. The magnitude of normative efficiency is of the same nature in many respects as the interest rate and the profit norm. In political economic research on capitalism, Soviet economists observe cyclical fluctuations in the profit norm while preserving a general trend toward decline. The American economist V. Perlo points out that in the postwar period conditions arose in the United States which resulted in a substantial increase in the profit norm [6]. Other trends of change in the efficiency of resources are undoubtedly characteristic of socialism. Nonetheless, this gives no reason to consider efficiency and discount norms stable for a period of any length whatever.

The length of the period in which comparing expenditures makes sense requires substantiation. In Hungary, for example, it is believed that comparing variants for 15 or more years is irrational since it is virtually impossible to predict production expenditures for a longer period of time [3]. To all appearances, the same situation exists in our economy as well. The length of the period for relating expenditures should take into account the "life cycles of output" and the degree to which economic processes are determinative.

Great controversy arises over the uniformity of En. When the axioms of the current capital investment efficiency theory are observed, the norm of marginal efficiency can only be uniform. The uniformity of the norm follows from the condition of the free overflow of resources among variants and the interchangeability of the unit of effect obtained in the process of realizing it. Only in this instance does comparing variants on a mediated basis through a uniform, encompassing optimal plan and variant make sense. This condition is not always met in the actual economy. The reason for this is the nonequivalency of output created in sectors of the national economy in conditions of shortage and its insufficient interchangeability. If the results in evaluating them are not comparable, not to mention identical, even the initial theory itself does not require uniformity of the norm. In this sense there is nothing strange in that "the price per ruble of investment can differ by a factor of 2, 3, or even 5, depending on where that ruble will be used" [4].

Under capitalism the full diversity of output produced is immaterial from the standpoint of the basic goal of production -- profits. Output is alike since profit is its only measure. From this standpoint, the selection of the sphere of application of capital is also of no concern. Orientation to a single parameter -- profit -- in conditions of free competition results in the formation of a production price which includes the uniform profit norm for all advanced capital. Nonetheless, there has not been a uniform profit norm under

monopolistic capitalism for a long time. And socialist production, in addition, has other principles of intersectorial interaction.

At the present time, value measures of output and expenditures do not always reflect their actual value to socialist society. The system of prices, expenditure norms, and wages does not take full account of the importance of particular resources, use values, and services. Therefore, even small volumes of investments in increasing output and improving production and domestic services in various sectors and regions are not always comparable among themselves. And the point here is not only the existence of accompanying and associated socioeconomiceffects which are difficult to pinpoint, but the complete or partial absence of interchangeability of effect as well. Thus, when there is a certain shortage of output from the agroindustrial complex, which has one of the highest priorities, only a very limited set of variants of investments in the agroindustrial complex can be compared with capital investments in other sectors. This circumstance is also manifested indirectly in the fact that the volume of capital investments directed to the agroindustrial complex is set virtually at the maximum possible level.

Under the current mechanism for distributing resources and price-formation practices, the uniform norm of efficiency of production resources can emerge primarily within the framework of national economic complexes oriented to satisfying certain aggregated national economic needs. This is explained by the fact that the types of output of the sectors of the complex are interchangeable from the standpoint of the goal of its functioning, while the organizational unity of the complex insures freedom of redistributing resources internally. The main condition is the internal production unity of the complex achieved by developing specialization and cooperation in production. As the objective unification of the complex takes place and its sectors begin to work toward one goal, conditions are created for uniform resource efficiency norms.

The "alignment" of capital investments with certain sectors and regions and their qualitative heterogeneity in different spheres must also be taken into account. This leads to a situation where capital investments which have material coverage in one sector cannot always be transferred and realized in another. In this way, in contemporary conditions resource efficiency norms should rather be differentiated.

However, it must also be noted that considerations of "stimulating technical progress and taking into account unequal wage levels (zonal and sectorial), the discrepancies in price levels, the long-termed nature of construction programs, and regional differences" [8] have no direct relationship to the differentiation of efficiency norms. They reflect an external manifestation rather than the essence of the processes and, to all appearances, cannot serve as a reference point in selecting the correct differentiation.

The qualitative unity of expenditures and results is theoretically achieved in conditions of optimal plan prices and evaluations. Output indicators measured at optimal prices are comparable and interchangeable by sectors. In this case the methods of the capital investment efficiency theory can be used in full. An attempt was made in the draft of the efficiency methodology to use

plan-calculation prices in substantiating large-scale measures. Nonetheless, when the "small" economic measures for which the methodology is in fact created are being evaluated, these prices are not envisioned, as if in this case current prices were equal to the optimal prices.

The problem of using optimal prices does not amount to calculating them. These prices, like any other "live" economic category, must be objective and self-regulating and reflect the system of interests which has taken shape in conditions of the given economic mechanism. But if prices are formulated on the basis of a certain "supermodel," exogenously in regard to the current system of production relations, then their stimulatory function cannot at all be carried out on the plane where real economic interests operate. Thus, the problem of comparing expenditures and results will not be solved.

Prices which make using the methods of optimal planning possible cannot be calculated and authorized only "from above" in a real economy. They must also be objectively formulated "from below." The main role of the planning center is most likely to create those conditions of the economic mechanism under which prices would take shape which reflect the goals of society and the tasks of the economy in a given stage of its development.

Thus, introducing a payment requirement for resources, expanding self-financing and credit, and developing planning independence in those areas where it is economically and socially justified will enable the methodology of evaluating the efficiency of capital investments to be used in those areas on a substantiated basis.

In conditions of the economic mechanism when all the prerequisites for formulating production prices are limited, using the capital investment efficiency theory cannot be considered completely justified. Its propositions sometimes directly contradict the planning practices which have developed. Despite all the changes carried out in the system of cost indicators, the assignments on output production in physical terms remain most important. This fact speaks of the weak interchangeability of output and, consequently, of the complexity of not only working out a uniform norm of efficiency but any homogeneous system of qualitatively homogeneous differentiated norms as well.

Moreover, consistently introducing the efficiency methodology means affirming the efficiency norm as one of the major plan indicators. At the same time, the plan section on capital investments establishes a planned limit of capital investments and construction-installation work. It is clear from the efficiency theory that the norm and limit of capital investments are essentially one and the same feature of investment resources in the plan. There is no need to establish the norm when establishing the limit and vice-versa. Of course, these two indicators can coexist, but only when they are mutually coordinated. Not one of the current methodologies satisfactorily reveals a system for correlating them. This means that the economy may obtain two different reference points for using one of the major resources.

To all appearances, improving balance methods of planning all stages of the investment cycle and expert evaluation of the variants of capital investments is now of greater significance. Research on the conditions for using the

methods of optimal planning and the methodology for taking accompanying and associated expenditures and results into account must also be developed. Only consistent coordination of the theory with the realities of our life can have fundamentally positive results in the practical sense.

FOOTNOTE

1. Methodological instructions on developing state plans propose calculating thecoefficients of calculated expenditures of future years on the basis of a uniform norm for a 50-year period.

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ECONOMIC MODELING AND COMPUTER TECHNOLOGY APPLICATION

NEW DATA PROCESSING SERVICE INDUSTRY SET UP

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[Article by R. Gabzalilov, chief specialist, Department for the Introduction of Computer Technology and Management Systems, UzSSR Gosplan [UzSSR State Planning Committee] under the rubric "Planning Theory and Practice: A Chief Specialist's Opinion": "The Planning of Data Processing Service (A New Branch of Material Production)"]

[Text] The ever greater degree to which computers are used to manage various elements of the national economy, the accelerating need for data processing services and the economic content of data processing have necessitated the organization of this sphere of activity as an economic entity. A decision by executive organs instituted "Data Processing Services" as a new branch of material production in the national economy which has been incorporated in the all-union classifier "Branches of the National Economy" and approved by USSR Gosstandart [USSR State Committee for Standards].

The newly formed branch includes cost accounting computer centers and other organizations (computer stations, data processing centers, etc.) that have their own balance sheet and that perform data processing services for enterprises, associations and organizations.

It should be noted that data processing capacities even now are very substantial and that they are being developed at a faster rate than other branches of material production. The number of ASU's [computerized management systems] and computers in operation increased 1.4-fold in the first 3 years of the current five-year plan alone. According to the available data on the development of the production of VT [computing and calculating equipment] in the industrially developed countries and the objective requirement for its use, we should expect the data processing service sphere to expand and, pending the sufficient level of saturation with peripheral devices for communicating with the computer, the size of the work force in this branch to grow.

As the scope of application of VT expands, various problems that adversely affect the effectiveness of its use become increasingly apparent. Among them: the incomplete introduction of ASU's; the existence of tasks that blindly copy imperfect data collection and processing techniques; insufficient flexibility;

emphasis on accounting functions to the detriment of optimization and other highly effective tasks; manual duplication of calculations performed by computer; the underutilization of VT, and many other things that turn the computer into a glorified adding machine instead of a potential for amplifying the intellectual base of management. As a result of these and a host of other shortcomings well known to data processing service specialists, the effectiveness of this process has begun to diminish. According to an ad hoc study by the UzSSR Central Statistical Administration, the payback period for expenditures on the development of ASU's in 3 years of the 11th Five-Year Plan will be 4.6 years, which is approximately 1.4 times higher than the norm and 2 times higher than the calculated payback period. While the productive fixed capital of all cost accounting computer centers rose by 8 percent and their work force increased by 2.7 percent in 1983, their work volume increased by only 4.8 percent. Their labor productivity rose 2.1 percent at the same time that their capital per worker increased 5.2 percent and their output-capital ratio declined 2.9 percent.

When evaluating the existing system of planning the introduction and utilization of VT, it must be said that until recently it has primarily met the demands of the period (early '60's) when the application of cybernetics was for the most part truly "computational," when cybernetics was a mere problem-solving tool in science and a limited number of other specific areas.

VT today is primarily a means of data processing and its computational abilities are of secondary importance.

Before examining the urgent problems in the economic mechanism for managing the introduction of VT, it is appropriate to make a critical appraisal of the planning of this process up until recently especially in view of the fact that the majority of the previously used indicators have remained in the new, albeit slightly expanded list. Let us begin with the fact that the hitherto-approved plan for introducing VT in the republic was unidirectional. Almost all its indicators defined expenditures that in actuality were not balanced by the results. In general, these indicators comprised three groups -- the activation of: computers, ASU's (ASUTP's [computerized systems for management, supervision and control of production processes] and ASOI's [automated data collection and processing systems]).

There is probably hardly any doubt that the mere fact that a computer is used in organizational and economic management is no guarantee of an automatic economic gain that will justify its cost. The same is also true of the activation of new computer centers. The introduction of an ASU can formally be considered the result of planned expenditures in the first two groups of indicators. The obligatory calculation of the economic effectiveness of activated automated systems, taking previous expenditures on VT, project-planning work and the necessary operating costs into account, can serve as the basis for this premise. At the same time, even if satisfactory methods are available for calculating the economic effectiveness of an ASU in the design stage, the problem of its actual evaluation remains open. Here it can be said most definitely that as long as there are not directives requiring the calculation of the actual effectiveness of ASU's, as long as there is no agency responsible for the observance of this requirement, no one will even

think of organizing such oversight, because this is a very complicated question and as yet there are no suitable methods for calculating the practical effectiveness of computerized management. Accordingly, the activation of an ASU can only be regarded as a promise but by no means a guarantee that it will be cost-effective. This is confirmed by the practical functioning of existing ASU's -- many tasks become extinct as no longer wanted, others require additional work that frequently runs into years; there develop so-called ASU start-up complexes that contain a substantially truncated part of the system in its initial technical conception for which the economic effect was calculated. One reason for this situation is the imperfect nature of the economic mechanism for managing this process since only one of its components -- the planning system -- has been activated whereas the role of the economic organizational system of economic organs, the system of regulation and economic levers in increasing the effectiveness of the introduction of VT has remained negligible.

Under these conditions, drafts of the five-year plan have listed the number of ASU's to be put into operation. As a rule, there was nothing more than the plan and minor design features. Consequently, it frequently happened that planned ASU's were introduced only on paper as a result of delays in acquiring technical means, the failure of the project-planning organization to meet its deadlines, etc.

Such a variant of planning the introduction of VT was devoted more to cost targets than to final economic results. Naturally, such a procedure, if it did not hinder, also did not promote the increased cost-effectiveness of the computerization of management.

This fact became all the more obvious with the development of organizational forms of using VT and with the understanding of the fact that the information product, like any other product, by virtue of the mode of its production, is equally necessary for the normal functioning of the economy.

In connection with the transformation of data processing services into an independent branch, starting with the current year, the republic gosplan will assign to ministries and departments targets for the volume of work to be performed by computer centers, for profits resulting from the basic activity of cost accounting computer centers, for the savings that are to result from lowering the cost of production (works, services), and for the increase in profits due to the introduction of VT. Ceilings are also imposed on state capital investments in the introduction of VT (within the overall volume of capital investments allocated to a ministry) and on expenditures on data processing services.

The balancing the planned result with the necessary expenditures and vice versa is a central problem in the plan for the introduction of VT as in any other planning document. While in the past, the balancing of the plan took the form of the cost-effectiveness of the introduction of VT while the mechanism of this balance was largely tentative, a more rational formula is introduced today: the cost of VT--volume of data processing services--economic effectiveness of their use. In this connection, several groups of

indicators can be identified in the plan for the introduction of VT in its present form.

The first group contains branch ceilings on VT and corresponding activation targets and deadlines.

The second group reflects targets for the volume of data processing work, targets for profits of cost accounting computer centers and in part cost ceilings on data processing services and also determines their economic parameters as a branch of material production.

The third group of indicators includes a ceiling on capital investments and targets for savings and for the growth of profits from the introduction of VT and is intended to determine the necessary level of effectiveness of the entire process.

As the first year of planning on the basis of the new indicators shows, these targets are not as yet being met. Accordingly, the existing problems and possibilities of solving them must be examined in greater detail.

Analysis of the data for past years shows that the projected volume of capital investments in calculations of the draft plan deviated substantially from actual costs. At the same time, this volume is the basis used for calculating the principal indicator of effectiveness of the introduction of VT -- the capital investment payback period. The underfulfillment or overfulfillment of the plan for acquiring peripheral equipment is the principal reason for the divergence of projected and actual costs in the majority of cases. This is associated with the shortage of peripheral equipment which results either in the failure to satisfy orders for it or in the random acquisition of missing items. All-union organs should obviously consider the planned distribution of peripheral equipment not only in value form, but also in terms of the products list. At the present time, this equipment is allocated by Gossnab [State Committee for Material and Technical Supply] at the same time that Gosplan [State Planning Committee] concentrates all data on the effectiveness of the utilization of VT, the nature of the problems it solves, plans the development of automated systems, etc. The necessity of raising the effectiveness of utilization of VT, of planning the development of computerized job slots and of developing existing ASU's generates the need for the organized coordination of plans of the two indicated agencies for the distribution of peripheral equipment.

A number of problems exist in the planning and accounting of expenditures on data processing services. In particular, ministries and departments lack a system for recording such costs and for analyzing them from the standpoint of their feasibility, cost, norm setting, and the planned management of their volume and their interrelationship with other sections of the plan. There is a lack of clarity on methods used to study the sources of financing of different items of expenditure on data processing services; this particularly pertains to the financing of work on new tasks. Under these conditions, it is necessary to organize distribution of expenditures on data processing services at various levels of the system of planned management. Such a system must include the determination of the volume of spending on data processing

services by source of financing and direction of use for each enterprise and organization in the branch and to analyze these expenditures from the standpoint of determining their influence on the technical-economic indicators of an economic unit and their interrelations with other sections of the plan in the form of targets relating to compensation and conservation resulting from the expenditures. Naturally, this system must embrace all levels: "enterprise-ministry-republic Gosplan."

The planning of indicators of the volume of work performed by computer centers and their profits is associated with the existing problems of converting computer centers to cost accounting. According to available statistics, on 1 January 1984, the economic performance of 27 of the 67 cost accounting computer centers was not planned and was not determined. In actuality, the number of cost accounting computer centers is purely formal and is still higher. Very frequently, when a computer center is financed by a ministry according to the calculated requirement for its maintenance and the same sum, depending on this need, is represented either in the form of expenditures on the maintenance of a computer center or as an indicator of the volume of work performed by the center. Therefore the introduction and intensification of cost accounting forms of production activity of the computer center is the most important problem in improving the economic and organizational management of data processing services today.

The expansion of the cost accounting sphere and the establishment of commodity-monetary relations between the producers and users of data processing resources compels the latter to raise their demands on the quality of services performed and to analyze their use value anew. After all, it is no secret that some computer centers are still solving problems that could easily be performed manually or solve problems by inertia that are of no interest to the user.

As a cost-cutting measure, users quite often pay for the services of computer centers on the basis of cost. In the process, computer center personnel receive a bonus from the saving on the wage fund and consequently are relieved of the concern of reducing the cost of the work, of making the computer center show a profit and of forming material incentive funds. In such a case, in the interest of the financial well-being of the users, computer centers are in a sense removed from the economic mechanism, do not create new value, and their resources are derived from participants in the formation of national income, which contradicts the real content of the performance of data processing services.

An important merit of the introduction of cost accounting in computer centers is that it stimulates the reduction of the cost of the work and motivates the more effective use of capacities and resources.

The problem of planning the volume of work to be performed by computer centers depending on available computing capacities also remains unresolved. The existing price list for computer time and the planning methods based on it make the use of computer resources ineffective. After all, the longer a program runs and hence the poorer the use that is made of computer capacities, the more the user can be charged. What is more, correlation analysis of he

work volume of computer centers shows that it depends much more on the number of personnel than on their computing capacity, the increase in which -- contrary to logical -- practically does not increase the planned volume of data processing services. The existing value (gross) indicators should evidently be supplemented by a list of work to be performed in physical terms. This will permit the planned regulation of the growth of the final output of computer centers, and not only its cost, as well as the formation of economic relations between the performers and users of information services in such a way that computer centers would be economically motivated to use computer capacities.

The dependences between these indicators are not always simple and frequently their form requires taking into account a number of specific features, including the renovation of fixed capital, the share of expenditures of computer time on preparing and running problems, the existence of appropriate programming means for new technology, etc. While the difficulty of ascertaining these dependences is considerable, the need to develop methods for making such calculations and to introduce them in planning practice is obvious.

The formulation of plans also requires the development of a mechanism for substantiating the increased volume of the work of computer centers from the planned increase in expenditures on data processing services depending on the rationally progressive or existing cost level of similar work at other computer centers.

The planned management of the new branch and the organization of the rational use of newly created productive capital -- computer centers, computers and other VT -- require the corresponding data base. The introduction of computer center passports reflecting their production capacities as the aggregate of the means of production, labor and material resources for data processing and their subsequent use analogous to the passports of production enterprises can be proposed as a solution to this problem at the republic level.

Finally, the establishment of targets based on final economic results is a very important problem in the formulation of the annual plan for introducing VT. As already stated, the resources that have been used for this purpose are structurally similar to those that have been used to directly improve production and management. Accordingly, the end results must be the same as for the use of resources in traditional directions, the only difference being that the recoupment of expenditures must be higher because the norm governing the effectiveness of capital investments in the introduction of VT is twice as high as the conventional norm. Therefore, the regulation of this process must be based, first, on the adjusted mechanism for choosing such objects of computerized management in which it is possible to obtain final national economic results in the form of lower cost and higher output or to realize change in other specific economic indicators associated with the effectiveness of the functioning of these objects. Second, republic ministries and departments are faced with the task of determining changes in the indicated technical-economic indicators due to the introduction of VT and the inclusion of the corresponding targets in the work plans of enterprises and organizations in a volume that covers expenditures on data processing services and capital investments in the introduction of VT.

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INTRODUCTION OF NEW TECHNOLOGY

GEORGIAN FINANCE MINISTRY STEPS IN TO ADVANCE RESEARCH

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[Article by V. Vostrukhin and O. Chikhladze (Tbilisi): "Money to Spare and Not to Spare"]

[Text] The Georgian SSR Ministry of Finances' scientific department has been in operation for almost a year. It is solving the urgent problem of speeding up the introduction of scientists' most efficient work into production. On this score we had a talk with Republican Minister of Finances D.N. Dvalishvili.

- Demur Noyevich, the introduction of cementless concrete into production is considered in Georgia to be an example of the new section's successful work. It is said that this has saved millions. But why was it necessary for the Ministry of Finance to intervene?

"It is secret that cement is in short supply. Our scientists worked out the technology of producing cementless concrete of a new type: they performed all of the necessary research, mastered the entire production process of building with the new materials, and demonstrated their high durability. And they substantiated the necessity of creating House-Building kombinat (DSK) enterprises in the republic to produce a full complement of building parts made of the new material. The basic components of cementless concrete are volcanic slag and lime. In Georgia there are simply mountains of such slag, and lime is produced in plenty.

"The USSR Ministry of Industrial Construction Materials has approved our technology; products made from the new concrete have conformed to government standards. It has remained to plan and build a plant which would issue, that is to, introduce the innovation into production. This is where the problems began. The Republic Ministry of Rural Construction, which was directed to build the plant, did not do this. From 1981 the author, Doctor of Technical Sciences and Professor of the Construction department of the Georgian Polytechnic Institute L. Bolkvadze, went in several instances and could not understand, how this could be: everyone was "for" it, but nothing happens. Finally he found out that a scientific section, which is involved in speeding up the introduction of innovations into production, had been created under the Georgian SSR Ministry of Finances.

And he came to us. 'You are financiers,' said Bolkvadze, 'You should understand; we are saving 200 kilograms of cement on every square meter of living space to be built according to the new method.'"

- And the scientific section took the efficient developments under its own patronage?

"Of course we did not say yes immediately. At first we carefully verified just how efficient it was: no one was prepared to throw money down a hole. It turned out that the materials which we are putting into the cementless concrete are quickly compensated and give back multiple profits.

"Then we began to search for the cause of the procrastination. It turned out to be completely trivial: the usual interdepartmental lack of coordination. The leaders of the Georgian Ministry of Rural Construction did not have money 'to spare' for planning and construction of the plant, while the USSR Ministry of Rural Construction did not agree to open up additional financing. It took us a month to get an explanation of these details. Within a week, however, we earmarked budget 80,000 rubles from the Republic; we found an institute, which would undertake to plan the plant, and now this work is nearing completion. This opens up the possibility of including the construction of the plant in next year's plan. And in the end the Republic will receive an enterprise which is so indispensable for it."

- But why did the Ministry of Finance sponsor a project that was not its own?

"Not its own? I cannot agree with that. The Ministry of Finance's fundamental function is to fulfill the state budget and increase its revenues. The peculiarities of the current stage of development of our society are such that the furthest increase in the national revenues is directly tied to scientific-technical progress. Frequently it has happened that while industry is mastering an innovation, the development becomes antiquated in spirit. It so happens that we are moving forward not on the cutting edge, but in the tail of scientific-technical progress. To the credit of our scientists and inventors, it must be said that many of their developments leave their own time so far behind, that in ten or twenty years they will fit in perfectly. But procrastination for twenty years does not do honor to the person who is responsible for the introduction."

- This must be called bluntly bureaucratic inertia.

"You're absolutely right. And the struggle against this is another very important function of the Ministry of Finance. The scientific section created in our Ministry is a tool in the struggle with uneconomicalness in the sphere of scientific-technical progress. I do not at all believe that we should place full and complete responsibility for the slow introduction of innovations into production onto individuals, on the conservatism of their characters--although very often where delays are concerned, the guilty are precisely such specific individuals. I will also assert that

adjusted production inevitably resists any intervention in it. To a certain extent this is the objective feature that is characteristic, one might say, of any economy.

"All of society is interested in the most advanced introductions to the economy. However, in order to put this interest to work, a specific organ is necessary to work in the introduction. This was discussed directly at the KPSU CC meeting on questions of accelerating scientific-technical progress. I won't endeavor to claim that the scientific section under the Ministry of Finance is the most efficient instrument in this matter. But one thing can be said definitely: the Ministry of Finance is a governmental institution which is terribly interested in accelerating the technical planning norms. It is very important also that our ministry be absolutely well versed in the financial condition of each separate department, that it can be able to objectively analyze the situation and give specific recommendations in each concrete instance on what the available resources would best be directed to."

- In what way will you choose the developments, which you intend to accelerate?

"We have a set system of information collection. We have concluded an agreement with the Georgian Academy of Science which systematically presents to us a list of long-term developments. Of course also the section workers--who are technically trained people--are conducting a search. A young, unconventionally thinking scientist, Candidate of Technical Sciences G. Kirtadze, is leading them. His subordinates in the planning field are visiting scientific, planning organizations and plant design bureaus, are becoming acquainted with the proposals these institutions have, and are choosing the longest term ones which are ready for introduction. A commission of specialists from various scientific-technical institutes has been enlisted for final assessment of the selections."

- What difficulties does the ministry face in the course of organizing its new work?

"The main difficulty which we have not yet overcome fully is this: in the beginning we were not perceived as intermediaries between science and production. When, for example, we asked one of the organizations for an explanation as to why it is not furthering the introduction of cementless concrete into production, at first they stared at our representatives in surprise. They say, 'You're here under what auspices?' We had to come with figures in hand to prove that the organization has available all it needs to introduce this process. And once that is evident, it must be done. Because all of society is interested in the economic effect of the introduction. What would seem to be unclear here? But conservatism of thought, the habit of working according to old ways is still strong among many managers. We must break the psychological stereotype that has thus developed.

- What are the long-term aims of the new section's work?

"First of all something must be said about a few of the results achieved. In the one and only year of the section's existence, we have taken under our own control six developments that are vital to the economy of the republic and which for one reason or another seemed to be outside the sphere of activity of the corresponding ministries or departments. Now they are in various stages of introduction. The Ministry of Finance is following this using a standard method of economic and financial control applied in our ministry. We have added an item to the list of all that comes under the Control and Inspection Administration Commissions' normal verification: the progress and efficiency of introduction of scientific-technical developments. All information about this flows into the science section. We are setting up a system for processing this information and expect actively to influence the pace of introduction with the aid of financial levers.

"Since we have been involved in these matters, we have run into problems of the efficiency of science. In the first place, it frequently appears that the subject is called completed but in fact it has not been brought to a finish. Second, as our experiment shows, at times the development is completely useless: the technical solution is clearly not up to the world standard. Of course the producers refuse to accept such an 'innovation.' What happens? Money is wasted, and instead of a design we get only a report about the completed work. In such situations we have a right to ask about whether the resources have simply been squandered. Our Control and Inspection Administration will be involved in researching the facts in detail.

"Thus, we will add the activities of other organizations which are responsible for introducing scientific-technical innovations into the republic to our own work."

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